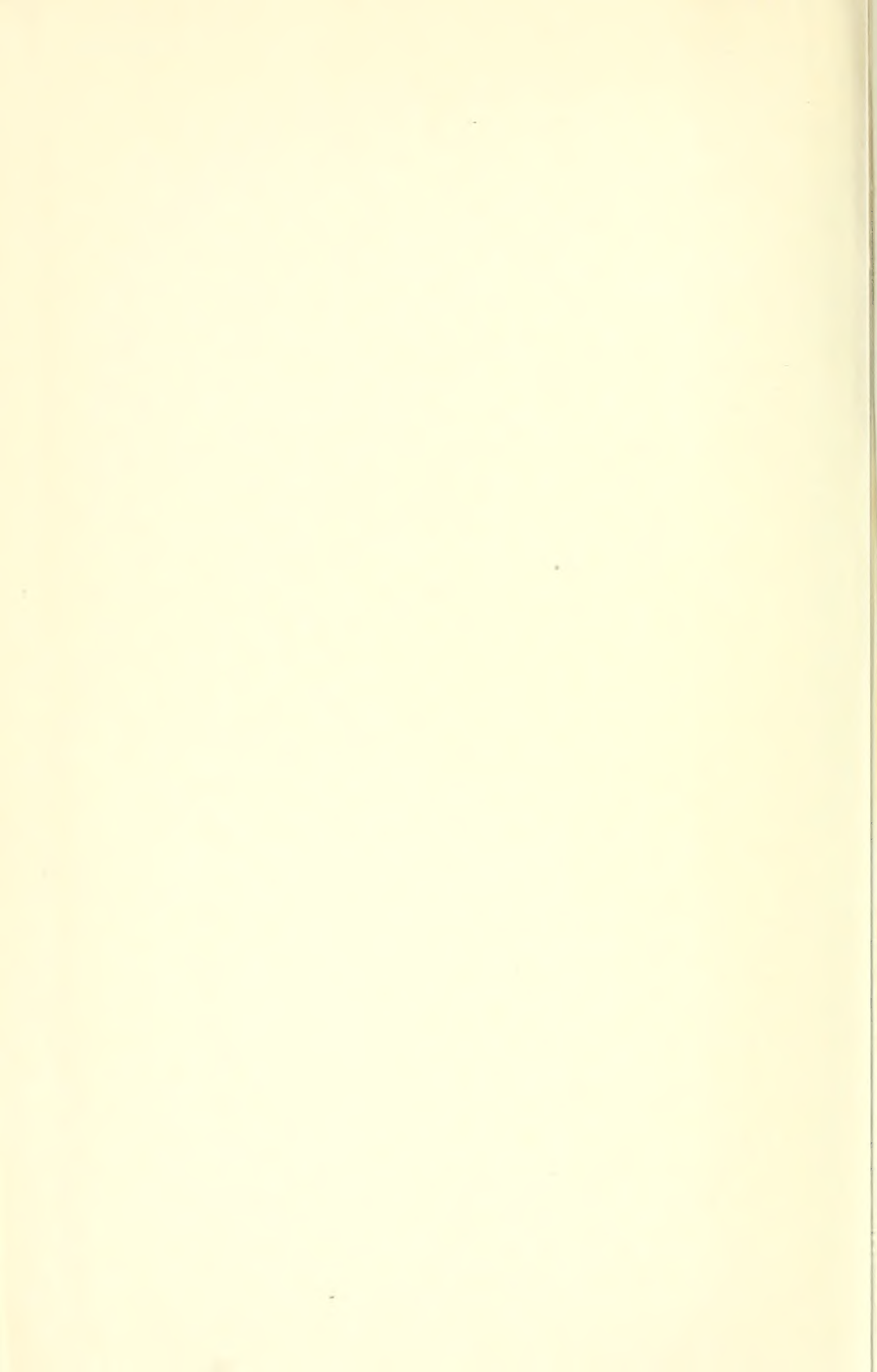
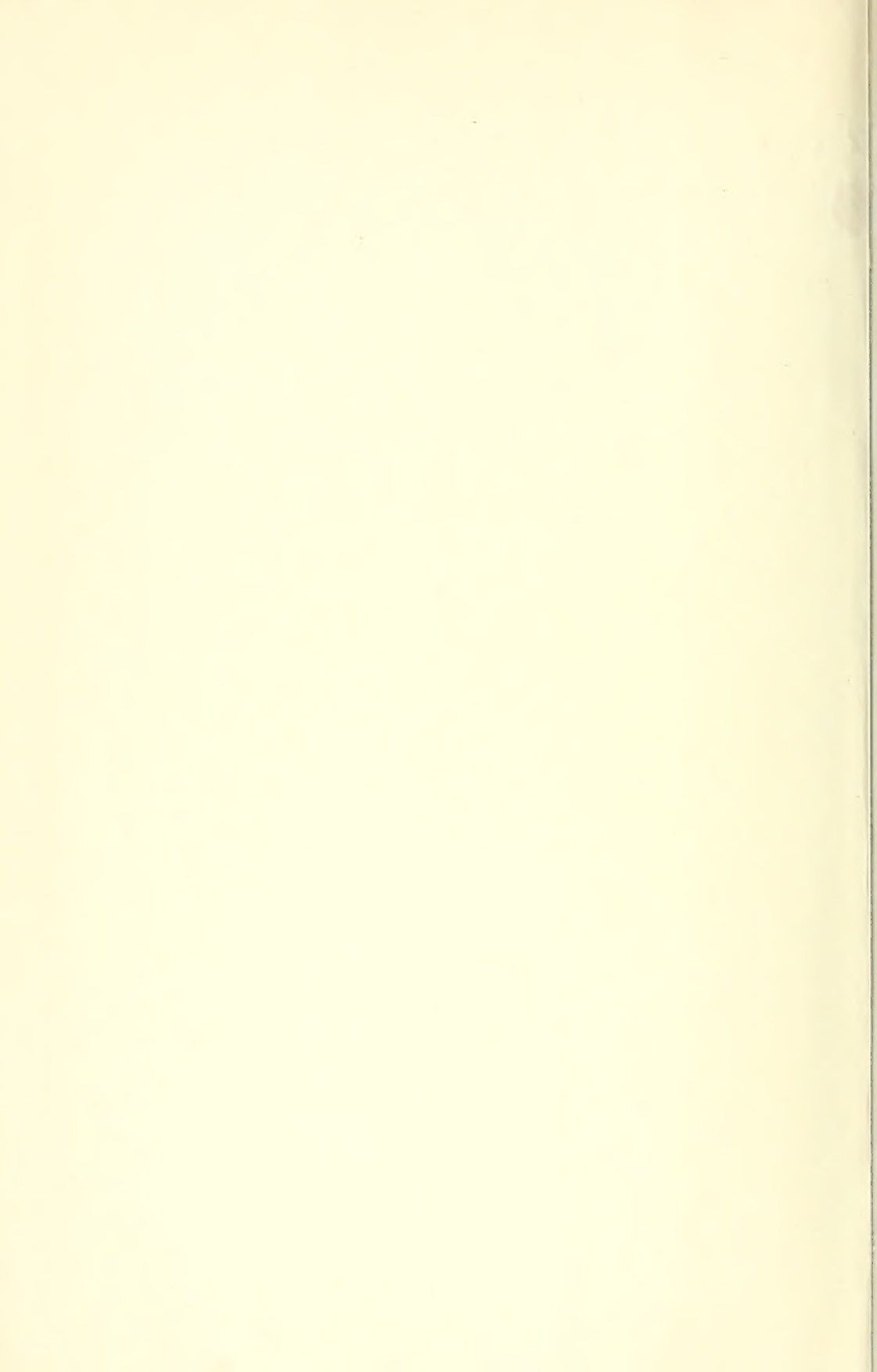
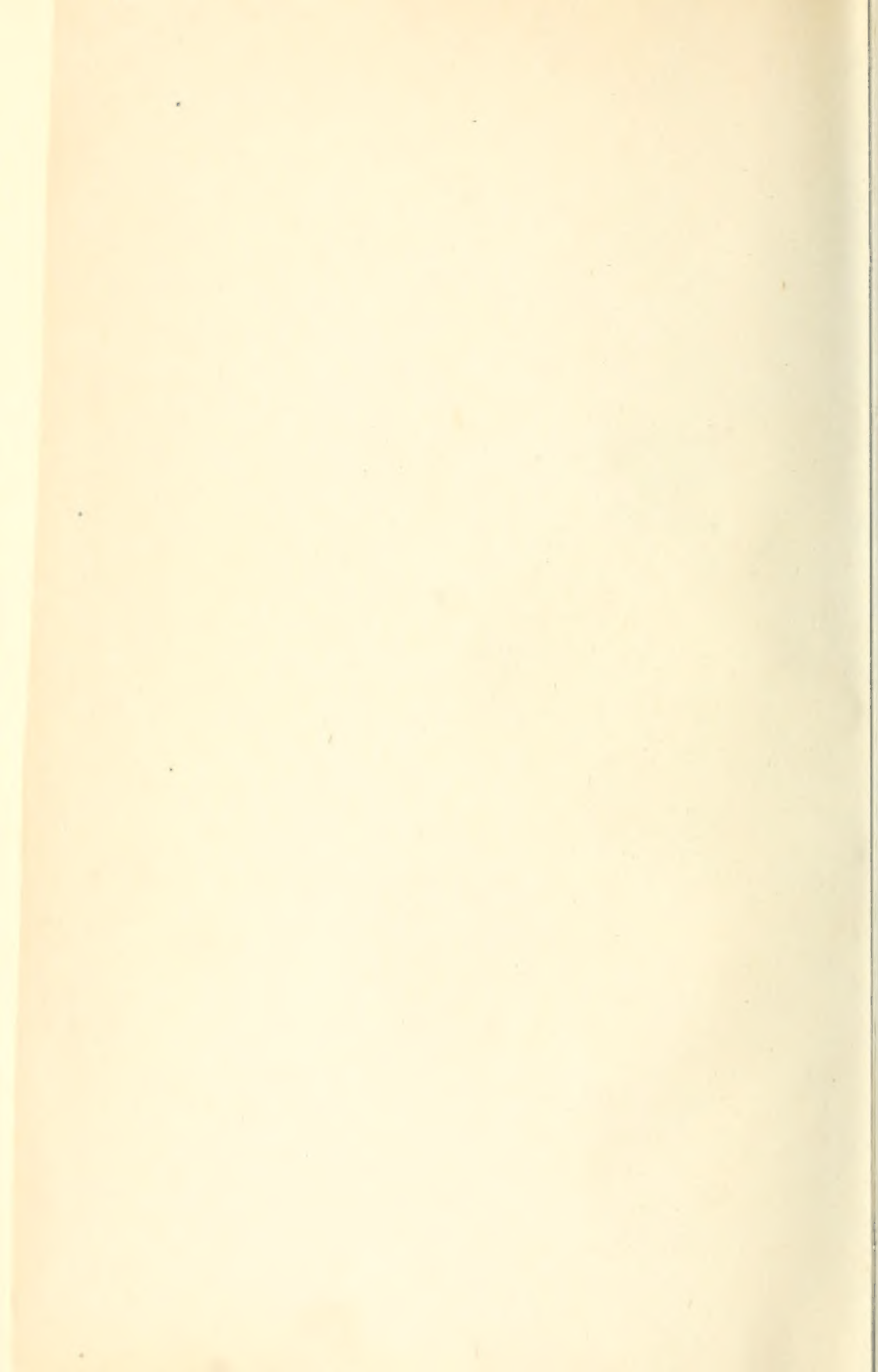


Ontario Legislative Council

Session papers







(67) — P-18, 7
SESSIONAL PAPERS.

VOLUME XVII.—PART II.

SECOND SESSION OF THE FIFTH LEGISLATURE

OF THE

PROVINCE OF ONTARIO.

SESSION 1885.

Toronto :

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1885.



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LIST OF SESSIONAL PAPERS

VOL. 17, SESSION 1885.

ARRANGED ALPHABETICALLY.

TITLE.	No.	REMARKS.
Administration of Justice in Criminal Matters	71	<i>Not printed.</i>
Agriculture and Arts	6	<i>Printed.</i>
Agricultural College	13	"
Agricultural Societies, analysis	83	<i>Not printed.</i>
Algoma, products and minerals	31	"
Asylums, Lunatic and Idiot	11	<i>Printed.</i>
Asylums, Private	59	<i>Not printed.</i>
Asylums, Magdalen and Orphan	41	<i>Printed.</i>
Authorized Text Books	37	"
Authorized Text Books	51	<i>Not printed.</i>
Belmont, lots sold in	91	"
Births, Marriages and Deaths	2	<i>Printed.</i>
Blind Institute Report	40	"
Bonds and Securities of Office	85	<i>Not printed.</i>
Borron's Report, Hudson's Bay	1	<i>Printed.</i>
Boundaries, correspondence	8	"
Bribery Commissioners, Report, etc	9	"
Bureau of Industries, Report	84	"
Coe William, correspondence	60	"
College Federation	65	"
Colonization Roads, amounts voted for	18	"
Colonization Roads, names of, etc	24	"
Common Gaols, Report	12	"
Companies Incorporated	69	<i>Printed.</i>
Criminal Matters, expenses of	71	<i>Not printed.</i>
Crown Lands Report	30	<i>Printed.</i>
Dairymen's Report	73	"
Deaf and Dumb Institute Report	38	"
Dean, Judge, fees of	33	<i>Not printed.</i>
Division Courts, Reports for 1883 and 1884	19	<i>Printed.</i>
Dominion Liquor License Act, correspondence	32	"
Dowling, John Francis, case respecting	29	"
Drainage Act indebtedness	52	"

TITLE.	No.	REMARKS.
Itatullo, George R., moneys paid to	84	<i>Printed.</i>
Peck, Samuel Stanley	61	"
Peterborough, lots sold in	72	<i>Not printed.</i>
Peterborough, lots sold in	91	"
Prisons' Report	12	<i>Printed.</i>
Private Lunatic Asylums, licenses to	59	<i>Not printed.</i>
Public Accounts	16	<i>Printed.</i>
Public Works Report	17	"
Queen vs. Bunting, Judgment	48	"
Railways, And to	74	<i>Not printed.</i>
Railway Annuities	64	<i>Printed.</i>
Railways, declared to be Dominion Railways	42	"
Reformatories, Report	12	"
Refuge, Houses of, Report	41	"
Registrars' Returns	50	"
Registry Returns	55	"
Rondeau Point, caretaker	21	<i>Not printed.</i>
Roxborough, Temperance Act in	88	"
Secretary and Registrar's Report	77	<i>Printed.</i>
School Readers	37	"
School Sections, Government grant withheld	23	<i>Not printed.</i>
Snowden, cancellation of location	87	"
Statistics, collection of	92	"
Statutes, disposal of	44	"
Superannuation List, teachers on	53	"
Tavern and Shop License Report	35	<i>Printed.</i>
Teachers' Permits	47	<i>Not printed.</i>
Teachers on superannuation list	53	"
Text Books Authorized	37	<i>Printed.</i>
Text Books Authorized	51	<i>Not printed.</i>
Timber berths in Thunder Bay District	20	<i>Printed.</i>
Timber berths in Thunder Bay District	22	"
Timber limit holders, dues charged by	75	<i>Not printed.</i>
Toronto General Trust Company	34	"
Toronto University, cash transactions	66	<i>Printed.</i>
Toronto University, endowment fund	67	"
Toronto University, amount spent in scholarships	68	"
Tudor, lots in	28	"
University College, cash transactions	66	"
University College, endowment fund	67	"
University College, amount spent in scholarships	68	"
University Federation	65	"
Upper Canada College, annual statement	46	<i>Not printed.</i>
Upper Canada College, endowment fund	67	<i>Printed.</i>
Upper Canada College, amounts spent in scholarships	68	"
Women, admission of, to lectures	58	"

TITLE.	No.	REMARKS.
East Luther school section	63	<i>Not printed.</i>
Education Report	5	<i>Printed.</i>
Election Returns	10	"
Elgin House of Industry	57	<i>Not printed.</i>
Employers' Liabilities	56	<i>Printed.</i>
Entomological Report	90	"
Estimates	15	"
Federation of the Colleges	65	"
Forestry Report	4	"
Fruit Growers' Report	7	"
Gaols Common, Report	12	"
Haliburton, lots sold in	91	<i>Not printed.</i>
Harvey, lots sold in	72	"
Hastings, lands sold in	28	<i>Printed.</i>
Hastings, lands sold in	60	"
Health, Board of, Report	70	"
Himsworth, settlement of	79	<i>Not printed.</i>
Horticultural Societies	83	"
Hospitals, Report	39	<i>Printed.</i>
Hungerford, small-pox epidemic in	25	"
Idiot Asylum Report	11	"
Immigration Report	36	"
Incorporated Companies	69	"
Industries, Bureau of, Report	84	"
Insurance Report	3	"
Joint Stock Road Companies	81	<i>Not printed.</i>
Legal Offices Report	89	<i>Printed.</i>
Librarian's Report	14	"
Lunatic Asylums' Report	11	"
Lyons, estreated bail bonds	43	<i>Not printed.</i>
McCurry, P., evidence before	27	"
Magdalen Asylums	41	<i>Printed.</i>
Market Fees	78	<i>Not printed.</i>
Mercer Estate	82	<i>Printed.</i>
Mining Act	76	"
Mitchell, Henry S.	54	<i>Not printed.</i>
Municipal Returns, 1883	80	"
Municipal Returns, 1884	62	<i>Printed.</i>
Municipal Indebtedness	49	"
North Nipissing, settlement of	79	<i>Not printed.</i>
Ontario and Quebec, Financial Affairs	45	<i>Printed.</i>
Orphan Asylums	41	"
Parry Sound Magistrate, evidence before	27	<i>Not printed.</i>

SESSIONAL PAPERS.

ARRANGED NUMERICALLY.

CONTENTS OF PART I.

- No. 1. Report of E. B. Borron, on that part of the Basin of Hudson's Bay belonging to Ontario. (*Printed.*)
- No. 2.. Report relating to the Registration of Births, Marriages and Deaths, for the year 1883. (*Printed.*)
- No. 3.. Detailed Report of the Inspector of Insurance for the year 1884. (*Printed.*)
- No. 4.. Forestry Report for the year 1884. (*Printed.*)

CONTENTS OF PART II.

- No. 5.. Report of the Minister of Education for the year 1884, with the Statistics of 1883. (*Printed.*)
- No. 6.. Report of the Council of the Agricultural and Arts Association for the year 1884. (*Printed.*)
- No. 7.. Report of the Fruit Growers' Association for the year 1884. (*Printed.*)
- No. 8.. Correspondence and Papers relating to the Northerly and Westerly parts of Ontario. (*Printed.*)

CONTENTS OF PART III.

- No. 9.. Report of the Commissioners appointed to inquire into and investigate certain charges of a conspiracy to corrupt, and of attempts to bribe certain members of the Legislature, with the evidence taken and documents. (*Printed.*)

CONTENTS OF PART IV.

- No. 10.. Return from the Records of the Elections to the Legislative Assembly since the last Return in 1884, shewing:—(1) The number of Votes polled for each Candidate in each Electoral District in which there was a contest. (2) The majority whereby each successful Candidate was returned. (3) The total number of Votes polled in each District. (4) The number of votes remaining unpolled. (5) The number of names on the Voters' Lists in each District. (6) The population of each District as shewn by the last census. (*Printed.*)
- No. 11.. Report on Lunatic and Idiot Asylums for the year ending 30th September, 1884. (*Printed.*)
- No. 12.. Report upon the Common Gaols, Prisons and Reformatories for the year ending 30th September, 1884. (*Printed.*)

- No. 13.. Report of the Ontario Agricultural College and Experimental Farm for the year 1884. (*Printed.*)

CONTENTS OF PART V.

- No. 14.. Report of the Librarian of the Legislative Assembly on the state of the Library. (*Printed.*)
- No. 15.. Estimates for the year 1885. (*Printed.*)
- No. 16.. Public Accounts for the year 1884. (*Printed.*)
- No. 17.. Report of the Commissioner of Public Works for the year 1884. (*Printed.*)
- No. 18.. Return shewing:—(1) The amount voted by this House for expenditure on each particular Colonization Road in the Province during the year 1883, with the conditions (if any) attached to such grant. (2) The amount actually expended on each of such roads, with the dates when the work thereon was commenced and completed. (3) The roads upon which the \$20,000, placed at the disposal of the Government for "Short New Roads and Repairs," has been expended, with copy of report recommending such expenditure or other application therefor, date of appropriation, dates of commencement and completion of the same, and conditions (if any) attached to such grant. (*Printed.*)
- No. 19.. Reports of the Inspector of Division Courts for the years 1883 and 1884. (*Printed.*)
- No. 20.. Return of copies of all Orders in Council for the sale or disposal of timber or timber berths or lands in the Thunder Bay District, or regulating the sale or disposal thereof, and of copies of all Orders in Council fixing the dues or fees to be paid in respect of such timber, and the bonus or purchase money to be paid for such timber lands or berths, or the right to cut the timber therefrom, and also of copies of all Orders in Council or regulations relating to such lands; the timber thereon, and the rate of bonus or dues to be paid in respect thereof, and also for a map or sketch shewing the area of the said district. (*Printed.*)
- No. 21.. Return shewing the name of the Caretaker, Wood Ranger, or other officer of the Government (if any) in charge of the Crown Lands and timber at Rondeau Point; the salary or other remuneration (if any) paid such officer, and the amount collected by such officer (if any) for timber or ornamental trees sold, to the 31st December, 1883. (*Not printed.*)
- No. 22.. Return shewing in detail the timber lots or berths in the Thunder Bay Districts which have been sold or disposed of, with the names of the persons to whom the same have been sold or disposed of; the area of each such lot or berth; the price paid therefor; the rates of dues to be paid in respect of the timber to be cut therefrom, and the names of the present owners of such lots or berths, and shewing also which (if any) of the lots upon which such rights to cut timber have been granted have been sold, and, if so, to whom, and the present owners of such lots, so far as the information is in the possession of the Department. (*Printed.*)
- No. 23.. Return shewing the total number of School Sections in the Province in which the Government Grant has been withheld since 1880; giving the reasons therefor in each case, and copies of any correspondence in the Education Department bearing upon the subject. (*Not printed.*)

- No. 24. Return shewing the name of each Colonization Road or, which Provincial Road was commenced since July, 1867; its length in miles; the constituency or constituencies in which it is situated; the amount expended on it in each year, distinguishing between amounts for repairs and amounts for construction of new road, giving the length of road constructed. (*Printed.*)
- No. 25. Return shewing in detail the expenditures made in the Townships of Hungerford, Elzevir and Seymour, and the Village of Campbellford respectively, by the authority of the Provincial Board of Health and the Local Board of Health, or otherwise, during the late small-pox epidemic that prevailed in these localities, with the number of cases and deaths, and the length of time the epidemic prevailed; the ages of the patients, and the number of such who have been vaccinated or re-vaccinated. (*Printed.*)
- No. 26. Return of the number of Hotel and Saloon Licenses authorized to be granted in the Town of Peterborough, for the year 1883-4, under the Crooks' Act, and the number of such Licenses actually granted. (*Not printed.*)
- No. 27. Return of:—(1) Copies of the information and evidence submitted to, and taken before Mr. P. McCurry, Stipendiary Magistrate of Parry Sound, at the instance of the Parry Sound Lumber Company, against Henry May, James May, William Micklam, William Brown, ——— Crawford and William Brand, or any of such persons, on a charge of alleged breach of agreement, by the said persons, or some of them, with the said Parry Sound Lumber Company, upon which information and evidence the said persons, or some of them, were convicted and sentenced by the said Stipendiary Magistrate to imprisonment, and actually imprisoned, notwithstanding the provisions of the Dominion Act, 40 Vic., cap. 35, which abolishes imprisonment or any summary remedy in any such cases between master and servant. (2) A copy of the written agreement entered into with the said Company by the said persons or any of them, if the same, or a copy thereof, was filed with the said Stipendiary Magistrate. (3) A copy of all correspondence by or with the said Magistrate, in reference to the said convictions, with any person or persons. (*Not printed.*)
- No. 28. Supplementary Return shewing:—(1) The several lots in the Townships of Tudor, Wollaston, Limerick and Faraday, in the County of Hastings, which have been sold, located, disposed of or applied for since January 1st, 1880. (2) The dates of the said sales; the persons to whom sold; the prices paid and the terms of payments. (3) The dates of the several applications for the purchase or location of said lots. (*Printed.*)
- No. 29. Papers respecting the case of Dr. John Francis Dowling, Member for the South Riding of Renfrew. (*Printed.*)
- No. 30. Report of the Commissioner of Crown Lands for the year 1884. (*Printed.*)
- No. 31. Return shewing in detail all sums paid or claimed for specimens of minerals or other products of the District of Algoma during the past year, for exhibition in Ontario or elsewhere, with the names of all persons by whom and to whom such payments were made, or by whom such claims were made, together with all papers, documents or communications conferring upon any person or persons authority to collect such exhibits, and all reports or communications made to the Government or any member or officer thereof by such person or persons. (*Not printed.*)

- No. 32. Return of copies of all correspondence between the Government of Ontario and the Government of the Dominion, respecting the Dominion Liquor License Act of 1883. (*Printed.*)
- No. 33. Order in Council commuting the fees of His Honour Judge Dean of Victoria. (*Not printed.*)
- No. 34. Statement of the Officers of the Toronto General Trusts Company, of its funds, properties and securities, required by 32 Vic., cap. 83, sec. 13. (*Not Printed.*)

CONTENTS OF PART VI.

- No. 35. Report of the Provincial Secretary on the working of the Tavern and Shop License Acts, for the year 1884. (*Printed.*)
- No. 36. Report of the Department of Immigration for the year 1884. (*Printed.*)
- No. 37. Return of copies of all Orders in Council and Departmental Regulations respecting the authorization or publication of School Text Books, subsequent to those already brought down; also, a copy of any agreement or bond entered into by James Campbell & Son, or William Warwick, with the Government, or any member thereof, for the publication of the old school readers, and a copy of any agreement or bond entered into between publishers and the Government, or any member thereof, or with the Chief Superintendent of Education, or Council of Public Instruction, for the publication of the new school readers; also, copies of all correspondence between the Minister of Education or other member or officer of the Government and any individual or firm, respecting the authorization or publication of School Text Books since 1st June, 1880; also, Return shewing the cost incurred up to the present in the preparation of the new School Readers recently authorized, specifying the different items of which the sum is made up, and the persons to whom the several amounts have been paid or are payable; also, a statement of the amounts that will yet have to be paid to complete the work; also, Return of copies of all Reports or recommendations of the Central Committee respecting the withdrawal of authorization from the Royal and Canadian Readers, and the preparation, authorization, and publication of a New Series of Readers. (*Printed.*)
- No. 38. Report on the Institution for the Education of the Deaf and Dumb for the year ending 30th September, 1884. (*Printed.*)
- No. 39. Report upon the Hospitals of the Province for the year ending 30th September, 1884. (*Printed.*)
- No. 40. Report on the Institution for the Education of the Blind for the year ending 30th September, 1884. (*Printed.*)
- No. 41. Report on the Houses of Refuge and Orphan and Magdalen Asylums aided by the Province, for the year ending 30th September, 1884. (*Printed.*)
- No. 42. Return shewing all Provincial Railways (Ontario), which were by the legislation of the Parliament of Canada of 1883 declared to be Dominion Railways. The mileage of each said Railway. The amount paid to each by the Provincial Government and by the Municipalities respectively. (*Printed.*)
- No. 43. Return of copies of all correspondence, papers and documents relating to the estreated bail bonds of one Lyons, committed for trial by the Police Magis-

trate of St. Thomas, on a charge of burglary, or larceny, in the possession of the Honourable the Attorney General, or in his Department. (*Not printed.*)

- No. 44. Return from Queen. Printer is to the disposal of the Sessional Statutes for the year 1884. (*Not printed.*)
- No. 45. Return of copies of all correspondence and other papers which may have passed between the Government of Ontario and the Governments of the Dominion and Quebec, touching the final settlement of the financial affairs of the late Province of Canada, except so far as already brought down. (*Printed.*)
- No. 46. Annual Statement for the twelve months ending 30th June, 1884, of Upper Canada College. (*Not printed.*)
- No. 47. Return of the names of all persons who have made application to the Department of Education through the Public School Inspectors in each County, for permits to teach for the years 1882 and 1883; the names of persons to whom such permits have been granted; the date of such permits; date of cancellation and dates of renewal, if renewed. (*Not printed.*)
- No. 48. Return furnishing the full text of the judgment of the Judges of the Queen's Bench Division of the High Court of Justice, on the Demurrer in the case of the Queen *vs.* Bunting and others. (*Printed.*)
- No. 49. Return shewing the indebtedness of any Municipality to the Government, whenever the same may be in arrears for over one year, either on account of principal or interest. (*Printed.*)
- No. 50. Statement of the Fees and emoluments received by the Registrars of Ontario for the year 1884, made in accordance with the provisions of the R. S. O., cap. 111, sec. 97, and 43 Vic., cap. 3, sec. 2, with which are contrasted receipts of same nature in 1882 and 1883. (*Printed.*)
- No. 51. Return shewing the Text Books authorized by the Education Department in Geography, Grammar, and English History, and now used in the Public Schools of this Province. (*Printed.*)
- No. 52. Return shewing in detail as to each Municipality:—(1) The amount of the original indebtedness of any Municipality to the Province under the Ontario Drainage Act. (2) The number and amounts of the rent charges originally payable in respect thereof. (3) The sum paid on account thereof. (4) The amounts in arrear for such rent charges. (5) The amount of rent charges yet to mature. And also a return of all correspondence and communications between any member or officer of the Government and any one on behalf of the said Municipalities as to the said arrears, or the reduction thereof, where any such reduction has been made, or of the claim of the Government in respect thereof, and also of all Orders in Council reducing or readjusting the indebtedness of any of the said Municipalities, and also shewing the amount of reduction in each case. (*Printed.*)
- No. 53. Return shewing the names of teachers on the superannuation list: the date of their superannuation; the amount received by each, their place of abode at the time of superannuation, and by whom their superannuation was recommended. (*Not printed.*)
- No. 54. Return of copies of all correspondence with reference to the application of Henry S. Mitchell to be appointed Notary Public. (*Not printed.*)

- No. 55. . . Return from each Registry Office, giving, for the final nine months of the year 1884, the following particulars :—(1) Number of absolute transfers and amount of fees received therefor. (2) The number of mortgages and the amount received therefor. (3) The number of discharges of mortgages and the fees received therefor. (4) The number of leases and the fees received therefor. (5) The number of wills and probates and the fees received therefor. (6) The number of patents and the fees received therefor. (7) The number of assignments of mortgage and the fees therefor. (8) The number of powers of attorney and the fees received therefor. (9) The number of bonds and agreements for sale of land and the fees received therefor. (10) The number of searches and abstracts and the fees received therefor. (11) The fees received for registering certificates, by-laws, plans and other instruments and services not enumerated and the fees received therefor. (12) Total amount received for registry fees. (13) The amount of surplus (if any) payable to the County. (*Printed.*)
- No. 56. . . Return of copies of Extracts, etc., from the Reports and Proceedings of the Special Committees appointed by the Imperial House of Commons in the years 1876 and 1877 to enquire whether it might be expedient to render employers liable for injuries occasioned to their servants, etc., and a copy of a letter addressed by Lord Justice Bramwell to Sir Henry Jackson, a member of said Committee, with respect to the matters inquired into by said Committees. (*Printed.*)
- No. 57. . . Report of the Inspector of the Elgin House of Industry and Refuge for the year ending 1st November, 1884, as required by section 460 of the Consolidated Municipal Act, 1883. (*Not printed.*)
- No. 58. . . Return of copies of all correspondence between the Government and the Council of University College respecting the admission of women to that institution, and shewing :—(1) The number of women attending classes in University College up to the date of the Return, distinguishing between matriculated and non-matriculated students, and between residents and non-residents of Toronto. (2) The number of women taking honour work in each Department in each year of the curriculum. (3) The amount spent by the Government and the College Council, as the result of the admission of women, with the objects for which it was spent. (4) The number of women undergraduates in each year of the Toronto University course; and (5) The number who have passed successfully in any of the groups of subjects at the local examinations for women, held under the auspices of the University, distinguishing between the first, second and third examinations. (*Printed.*)
- No. 59. . . Return shewing the number of licenses granted for the keeping of Private Lunatic Asylums for the years 1882, 1883, and 1884; the names of all persons obtaining such licenses, and the date of their issue. (*Not printed.*)
- No. 60. . . Return of copies of all correspondence between William Coe and the Crown Lands Department, relating to lands sold to him in the year 1883; also, for a copy of the Report of the Commissioner of Crown Lands to the Lieutenant-Governor in Council on the sale made in such year 1883; also a copy of the Order in Council confirming such sale; also, as a supplementary return presented to the House during the present Session states the terms of said sale were cash, a statement of dates of payments made on account of said sale. The above Return to apply only to lands sold in the Townships of Wollaston, Limerick, Faraday and Tudor, in the County of Hastings. (*Printed.*)

- No. 61. Return of all papers, documents and communications to or from the Government or any member thereof, since the first day of March, 1884, to the present time, respecting the conduct of Samuel Stanley Peck, Esquire, Stipendiary Magistrate and Division Court Judge for the Provisional County of Haliburton, at the Municipal elections held on the fifth day of January last, in the Township of Minden, and subsequently thereto, and of any official or other information respecting the citizenship of the said Peck, and of any communication respecting the debt of the said S. S. Peck to the said Provisional County whilst treasurer thereof. (*Printed.*)
- No. 62. Abstract of Returns of Receipts, Expenditures, Assets and Liabilities, for the year 1884, of the Municipalities of the Province of Ontario, made by Clerks of Municipalities pursuant to 43 Vic., cap. 24, sec. 6, with the population of each Municipality. (*Printed.*)
- No. 63. Return of copies of all correspondence between the Department of Education and the Inspector of the County of Dufferin or the Trustees of School Section No. 1, East Luther, or any other person, relating to the Division of the said School Section. (*Not printed.*)
- No. 64. Return shewing the number of certificates of Railway Annuities and the amounts of the same which have been either sold or exchanged for any portion of the outstanding Railway Scrip, as authorized under the provisions of cap. 31, 47 Vic.; to whom sold or with whom exchanged; the terms upon which such sale or exchange was effected, and when sold; the date of the receipt of the money therefor. Also a copy of the advertisement asking for tenders, with copies of all tenders received in response thereto. (*Printed.*)
- No. 65. Return of copies of a certain memorandum or scheme with regard to a Federation of the other Universities and Colleges in Ontario with University College, and of all reports or resolutions of the governing bodies of the University of Toronto and other Universities or Colleges in relation thereto, and copies of any other documents affecting the proposed Federation. (*Printed.*)
- No. 66. The Bursar's Statement of Cash Transactions of the University of Toronto and University College, for the year ending 30th June, 1884. (*Printed.*)
- No. 67. Return giving a statement of all the real property belonging to the Endowment Fund of Toronto University, University College, and Upper Canada College, and the value thereof, and of all other property, namely: Debentures, Mortgages; Bank Stock; Balances that may be due on Sales of Land; Cash Balances in Banks; and any cash that may be in hand as on the 31st June, 1884; the income derived from the said property for the years 1883 and 1884, with the expenditure of the same for the same period; a clear statement shewing the kind of educational work that Upper Canada College is doing in excess or advance of what any well equipped High School is doing or can do. (*Printed.*)
- No. 68. Return shewing the amount spent in scholarships, bursaries, exhibitions and prizes in Toronto University, University College and Upper Canada College during the ten years ending 1883-4, distinguishing between those on public and those on private foundations, and in the case of the University between those granted in the different faculties of Arts, Law and Medicine. Also, amount paid annually, *per* student, by fees in each of the above classes. (*Printed.*)

- No. 69.. Return shewing the names of all companies or associations incorporated under chapter 167 of the Revised Statutes, since the year 1877, with the dates and places of incorporation, and particularly the objects of incorporation thereof respectively. The names and like particulars as to companies or associations incorporated since the year 1877 under chapter 158 of the Revised Statutes, being the Act respecting co-operative associations. (*Printed.*)

CONTENTS OF PART VII.

- No. 70.. Report of the Provincial Board of Health for the year 1884. (*Printed.*)
- No. 71.. Return of copies of all regulations directed and appointed by the Lieutenant-Governor in Council, under authority of the Act respecting the Expenses of the Administration of Justice in Criminal Matters, Revised Statutes, chapter 86, for the examination, auditing, vouching and approving of such expenses as are paid out of the Consolidated Fund in accordance with said Act. (*Not printed.*)
- No. 72.. Return shewing the lots in the Township of Harvey, in the County of Peterborough, which, while under license for the cutting of timber, have been sold since the first day of January, 1880, with a statement of the date when the right to cut timber under such license would cease in consequence of such sale. Also, the name or names of the license holders whose license covered such lands. (*Not printed.*)
- No. 73.. Report of the Dairymen's Association of Western Ontario for the year 1884. (*Printed.*)
- No. 74.. Return of copies of all applications made to the Provincial Government for aid to Railways since the passage of the Dominion Act of 1883, declaring Provincial Railways to be for the benefit of Canada, with copies of all correspondence relating to such applications. (*Not printed.*)
- No. 75.. Return of all correspondence between the Crown Lands Department, or any officer thereof, and any other person, with reference to the dues charged by timber limit holders to actual settlers upon lots on which they have not been formally located. (*Not printed.*)
- No. 76.. Return to an Address, of the fourteenth day of March, 1884, for copies of all Orders in Council passed under the authority of the General Mining Act, creating, extending, adding to, or diminishing mining divisions. (*Printed.*)
- No. 77.. Report of the Secretary and Registrar of the Province for the year 1884. (*Printed.*)
- No. 78.. Return of all market fees and market rents, salaries of market clerks, with rates of fees now charged and any changes of fees known to the Department since the passing of the Act relating to Market Fees, being 45 Vic., cap. 24. (*Not printed.*)
- No. 79.. Return of all correspondence between the Crown Lands Department, or any officer thereof, and any other person, with reference to the opening up for settlement of the Townships of Himsworth and North Nipissing, or any part of them, and also, of all petitions, reports or Orders in Council on the subject; also, for copies of all petitions or applications to the Crown Lands Department for a supply of timber for the purposes of a local mill there, and of all correspondence between the Department and any other person on the subject. (*Not printed.*)

- No. 80.. Statement of the Assets, Liabilities, Revenue, Expenditure, etc., of the several Municipalities in the Province, as made by the Clerks of the Municipalities for the year 1883. (*Not printed.*)
- No. 81.. Return of copies of all reports made to the Government by Directors of Joint Stock Road Companies for the year 1884, under sec. 146, cap. 152, of the Revised Statutes, as amended by ss. 6 and 7, cap. 25, 47 Vic., and a Return shewing the date of construction of all toll roads in the Province, the number of toll-gates maintained thereon, the rate *per* mile charged as tolls, and specifying the amount of the original capital stock, and the amount of the present stock, with the reasons for an increase, if any, in each case; also a Return shewing the toll roads which have been abolished in the Province, or on which the collection of tolls has ceased, and the manner and terms of their abolition, or the reasons why tolls have ceased to be collected. (*Not printed.*)
- No. 82.. Statement in detail of the Receipts and Expenditures on account of the Mercer Estate for the year 1884. (*Printed.*)
- No. 83.. Tabulated Analysis of Reports of Electoral, District and Township Agricultural Societies and of Horticultural Societies for the year 1883. (*Not printed.*)
- No. 84.. Report of the Bureau of Industries for the Province for the year 1884. (*Printed.*)
- No. 85.. Detailed Statement of all Bonds and Securities registered in the Provincial Registrar's Office during the year 1884. (*Not printed.*)
- No. 86.. Return shewing what sums have been paid to George R. Patullo on any account whatever since first January, 1883, with the dates of the payment thereof and the purpose for which such payments were made. (*Printed.*)
- No. 87.. Return of copies of all correspondence and other documents relating to the cancellation of location of lot number 33 in the first concession of Snowden, in the Provisional District of Haliburton, and of all correspondence and documents relating to the sale or re-location of the same lot. (*Not printed.*)
- No. 88.. Return of all correspondence between the Municipal Council of the Township of Roxborough, or any member or officer thereof, and the Provincial Secretary, or any officer of his Department, with reference to the claim made by the License Board of Stormont upon the said Municipality for payment of fifty dollars towards the expenses of enforcing the Temperance Act of 1864 in the Township of Roxborough. Also, shewing the amount demanded from each Municipality in which the said Act was in force for each of the years 1882, 1883 and 1884, and the amount paid in respect of such demand. Also, shewing how the said sum of fifty dollars demanded from the said Township of Roxborough is made up. (*Not printed.*)
- No. 89.. Report of the Inspector of Legal Offices, for the year 1884. (*Printed.*)
- No. 90.. Report of the Entomological Society of Ontario for the year 1884. (*Printed.*)
- No. 91.. Return shewing the several Lots in the Townships of Belmont, Methuen, Anstruther, Galway and Cavendish, in the County of Peterborough, and of the Townships of Cardiff, Monmouth, Snowden, Lutterworth and Glamorgan, in the Provisional County of Haliburton, which have been sold,

located, disposed of, or applied for, otherwise than under the "Free Grant and Homestead Act," since the first day of January, 1880; also, the dates of the said sales, the persons to whom sold, the prices paid, and terms of payment; also, the dates of the several applications for the purchase, location, and terms of location of said lots. (*Not printed.*)

- No. 92. . Return of the names of all persons appointed or employed for the collection of Statistics other than Vital Statistics in connection with any Department of the Provincial Government; the places of residence of such persons, the salary or other remuneration paid or given to them; the dates during which they were employed; the instructions, if any, given to such persons, and a statement shewing the cost of compiling such statistics, such Return to embrace the years 1883 and 1884. (*Not printed.*)



REPORT

OF THE

MINISTER OF EDUCATION.



REPORT
OF THE
MINISTER OF EDUCATION
(ONTARIO)
FOR THE YEAR 1884,
WITH THE STATISTICS OF 1883.

PART I.—STATISTICS OF PUBLIC, SEPARATE AND HIGH SCHOOLS FOR THE YEAR 1883.

PART II.—EDUCATION DEPARTMENT, 1884.

1. PROCEEDINGS FOR THE YEAR 1884.
2. PROVINCIAL NORMAL, AND MODEL SCHOOLS.
3. COUNTY MODEL SCHOOLS.
4. TEACHERS' ASSOCIATIONS.
5. DEPARTMENTAL EXAMINATIONS.
6. PUBLIC SCHOOL TEACHERS' CERTIFICATES, ETC.
7. INSPECTION OF PUBLIC, SEPARATE, INDIAN AND HIGH SCHOOLS.

PART III.—UNIVERSITY OF TORONTO ; UNIVERSITY COLLEGE ; SCHOOL OF PRACTICAL SCIENCE ; UPPER CANADA COLLEGE, 1883-4.

PART IV.—TECHNICAL EDUCATION AND SCIENTIFIC SOCIETIES.

Printed by Order of the Legislative Assembly.



Toronto :

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1885.

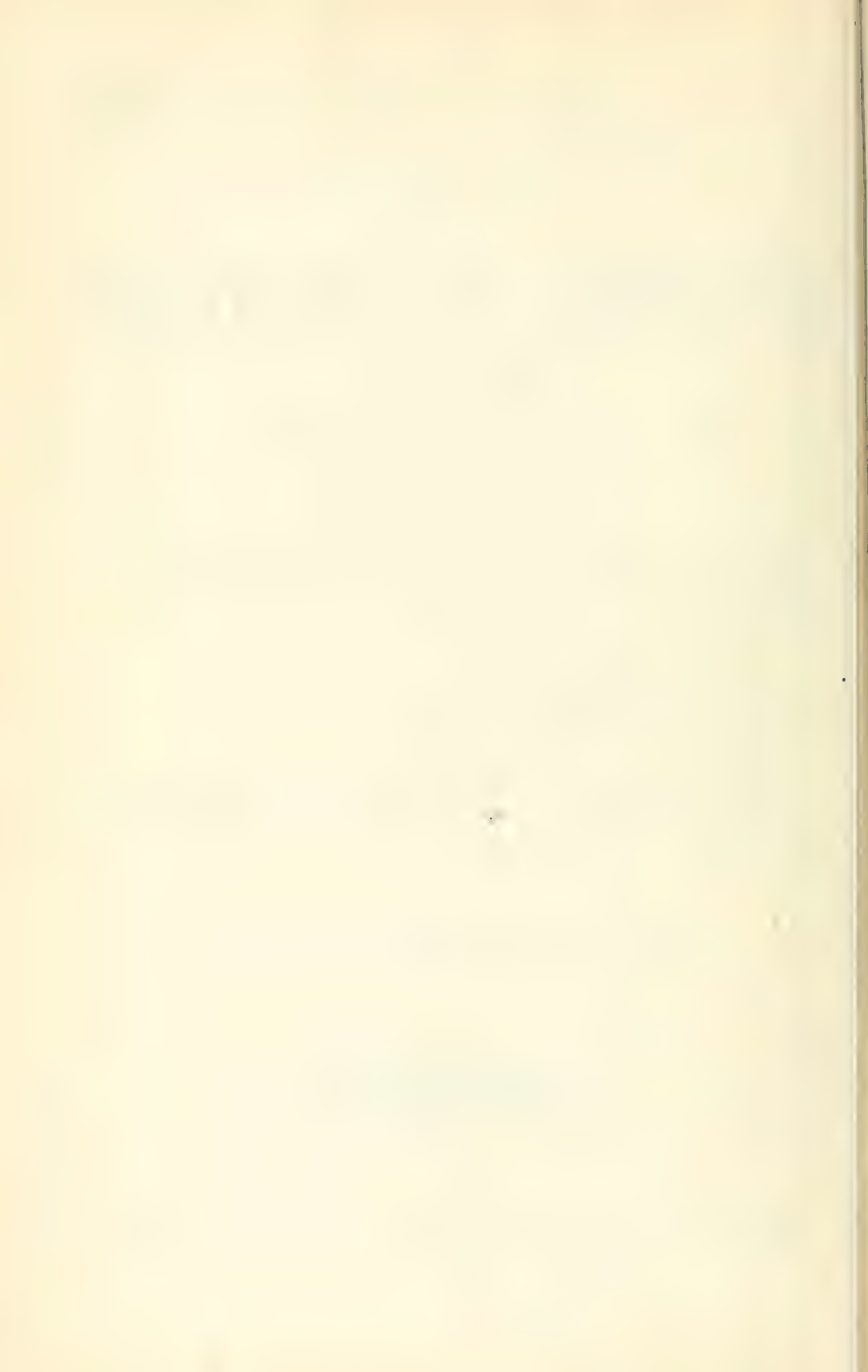


TABLE OF CONTENTS.

PART I.

STATISTICAL REPORT, 1883.

Statistics of Public, Separate, and High Schools for the Year 1883.

	PAGE.
1. <i>Public Schools.</i>	
I. Receipts and Expenditures—Cost per Pupil.	11
II. School Population, Average attendance, etc	12
III. Number of Pupils in the different branches of Instruction—Classification.	13
IV. Number of Teachers, Salaries, Certificates	14
V. School Boards and Rural Schools, etc.	15
2. <i>Roman Catholic Separate Schools.</i>	
VI. The Roman Catholic Separate Schools	16
3. <i>High Schools.</i>	
VII. Receipts and Expenditure—Pupils—Cost per Pupil	17
VIII. Number of Pupils in the subjects of study	18
IX. Accommodation and Miscellaneous.	18
4. <i>General Statistical Abstract and Comparative Statement.</i>	
X. General Statistical Abstract, 1874 to 1883.	18
XI. Comparative Statement with United States and Great Britain	19

TABLES.

1. <i>Public Schools.</i>	
I. TABLE A.—Receipts and Expenditure	26
II. TABLE B.—Pupils attending—Average attendance	32
III. TABLE C.—Pupils in different branches of Instruction	38
IV. TABLE D.—Public School Teachers	44
V. TABLE E.—Public School Houses.	46
2. <i>Roman Catholic Separate Schools.</i>	
VI. TABLE F.—Roman Catholic Separate Schools	48, 49
3. <i>High Schools.</i>	
VII. TABLE G.—Receipts and Expenditure.	50
VIII. TABLE H.—Pupils in the different branches of Instruction	56
IX. TABLE I.—Miscellaneous, Head Masters' names, Salaries and Universities	62

4. *General Statistical Abstract.*

PAGE.

X. TABLE K.—General Statistical Abstract, 1873 to 1883.....	68
---	----

PART II.

EDUCATION DEPARTMENT, 1884.

DIVISION I.—*Proceedings for the year 1884:*

1. Orders in Council	73
2. Minutes of Department	75
3. Circulars from the Minister	76
4. Certificates of Eligibility for Inspectors, High-School Masters, and Examiners	83
5. Confirmation of By-laws	84

DIVISION II.—*Provincial Normal, and Model Schools, 1884:*

1. The Toronto Normal School	85
2. The Ottawa Normal School	88
3. The Model School, Toronto	91
4. The Model School, Ottawa	91
5. Expenditure, Normal and Model Schools	91

DIVISION III.—*County Model Schools, 1884:*

Regulations	92
Report of J. J. Tilley, Esq., Inspector	114
Statistics of County Model Schools	116

DIVISION IV.—*Teachers' Associations, 1884:*

1. Report of Provincial Teachers' Associations	119
2. Financial Statement of Teachers' Associations.....	126

DIVISION V.—*Departmental Examinations, 1884:*

1. Admission of Candidates to High Schools.....	128
2. Intermediate, etc., Examination.....	132

DIVISION VI.—*Public School Teachers' Certificates, 1884:*

1. Certificates Granted	133
2. List of Certificates granted by the Department.....	133
3. Third Class Certificates extended by Minister.....	139
4. Temporary Certificates authorized by Minister.....	140
5. Superannuated Teachers	141
(1) Pensions granted during the year	141
(2) Summary, 1876 to 1884	142
Teachers retired from the Profession	142

DIVISION VII.—*Inspection of Public, Separate, Indian, and High Schools, 1884:*

1. <i>Public School Inspection.</i>	
(1) List of Inspectors	143
(2) Extracts from Reports of Public School Inspectors	144
2. <i>Roman Catholic Separate School Inspection.</i>	
(1) Report of J. F. White, Esq., Inspector	158
(2) Report of C. Donovan, Esq., Inspector	159

PAGE.

3. *Indian School Inspection*

1. Regulations 161

2. Extracts from Reports of Inspectors. 163

4. *Collegiate Institute and High School Inspection.*

(1) Report of J. E. Hodgson, Esq., M.A., Inspector 185

PART III.

UNIVERSITY OF TORONTO: UNIVERSITY COLLEGE, TORONTO: SCHOOL OF PRACTICAL SCIENCE: AND UPPER CANADA COLLEGE, 1883-4.

1. Annual Report of the University of Toronto, 1883-4 193

2. Report on University College, Toronto, 1883-4 194

3. Report on School of Practical Science, Toronto, 1883-4..... 196

4. Report on Upper Canada College, 1883-4 201

PART IV.

TECHNICAL EDUCATION AND SCIENTIFIC SOCIETIES.

1. Mechanics' Institutes..... 205

2. Art Schools 236

(1) Report of Dr. May, Superintendent, Ontario School of Art..... 236

(2) Report of the Western Ontario School of Art and Design, London 250

(3) Report of the Art Association of Ottawa 251

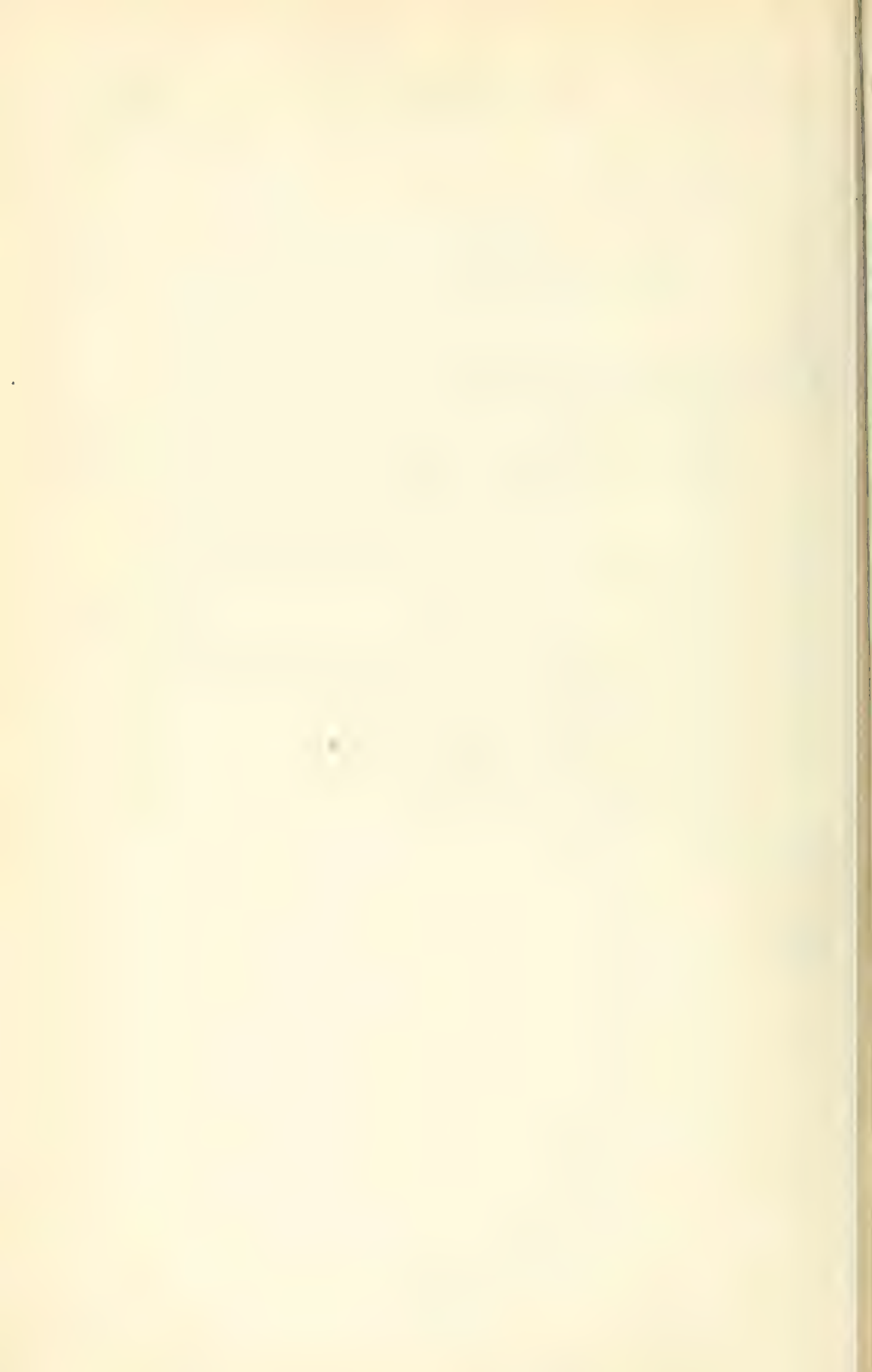
(4) Report of the Ontario Society of Artists..... 252

3. Report of the Ottawa Literary and Scientific Society 254

4. Report of the French Canadian Institute, Ottawa 255

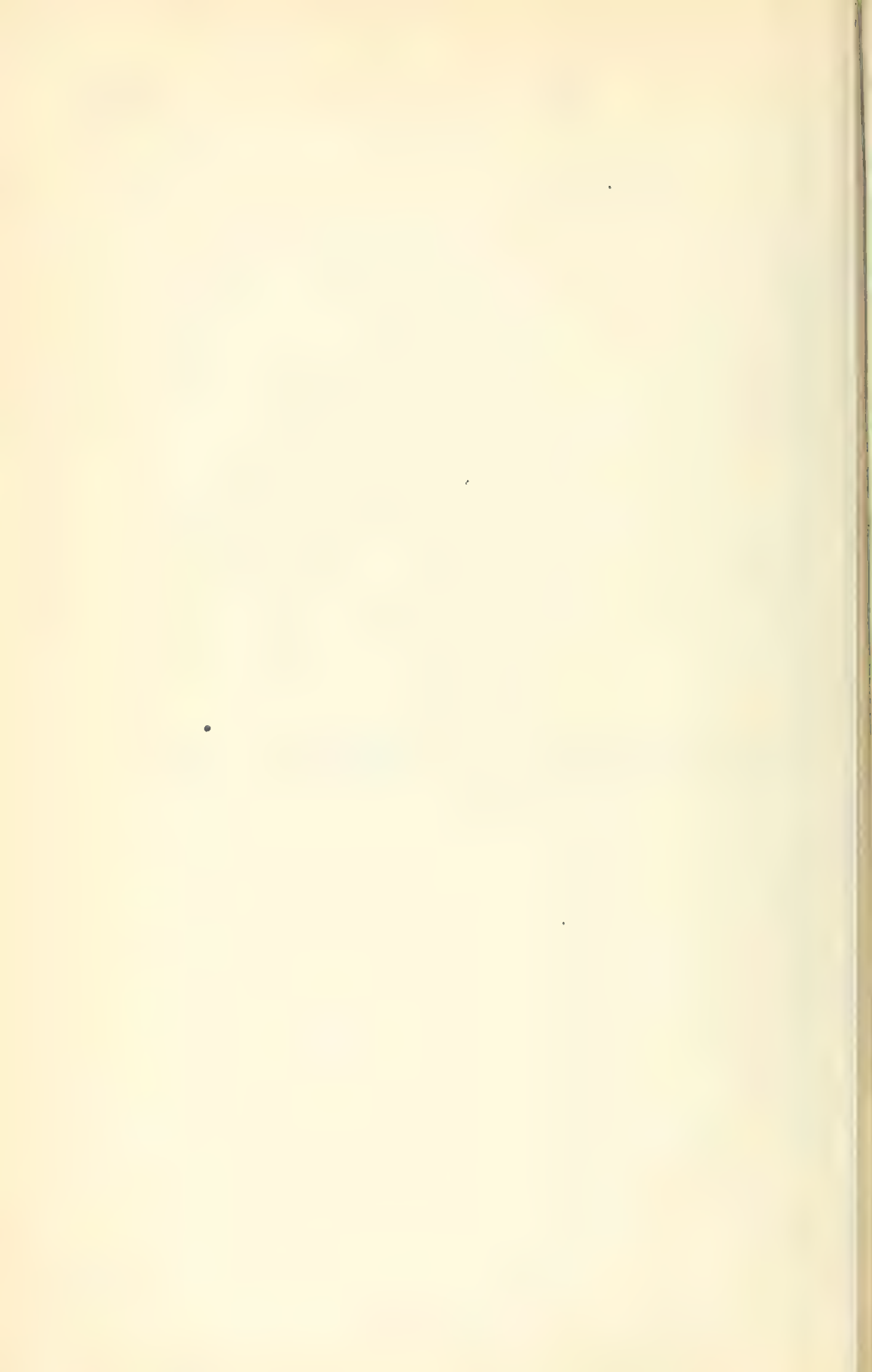
5. Report of the Canadian Institute, Toronto 255

CONCLUSION 258



PART I.

STATISTICAL REPORT, 1883.



REPORT
OF THE
MINISTER OF EDUCATION
ONTARIO),
FOR THE YEAR 1884,
WITH THE STATISTICS OF 1883.

TO THE HONOURABLE JOHN BEVERLEY ROBINSON,

Lieutenant-Governor of the Province of Ontario :

MAY IT PLEASE YOUR HONOUR :

I herewith present the Report of the Education Department for the year 1884, together with the statistics for the year 1883.

PART I.
STATISTICAL REPORT.

I proceed to give a summary view of the condition of the Public, Separate and High Schools for 1883, condensed from the accompanying Statistical Tables :—

Statistics of Public, Separate, and High Schools for the Year 1883.

1.—Public Schools.

NOTE.—Tables A, B, C, D, E, include the Statistics of Separate Schools.

I.—RECEIPTS AND EXPENDITURE, ALSO COMPARISONS WITH THE YEAR 1882.

Receipts.—1.—The amount apportioned from the Legislative Grant was \$265,468, being \$251,067 for Public Schools, and \$14,401 for Separate Schools, decrease \$270. The apportionment is made to the several Counties, Townships, Cities, Towns and Incorporated Villages, according to the ratio of population in each, as compared with the whole

population of the Province, as shown by the last annual returns from the respective Counties, Cities and Towns separate. The principle of distribution amongst the respective schools in each Municipality is according to the average attendance and the time of keeping the Schools open (Public and Separate), in each such Municipality.

2. The amount from Municipal School Grants and Assessments was \$2,538,041, showing an increase of \$90,827.

3. The amount from the Municipalities' Fuel, Surplus Distribution, and other like sources, applied to School purposes was \$767,222, increase, \$10,184.

4. The total receipts for all Public School purposes amounted to \$3,305,263, showing an increase of \$100,741 over the total receipts of the year 1882.

5. The Legislative Grant represents $7\frac{1}{2}$ per cent. of the Total Receipts; Municipal Grant, $70\frac{1}{2}$ per cent.; other sources 22 per cent.

Expenditure. 1. The amount paid by trustees for salaries of teachers, \$2,210,187, increase, \$65,739.

2. For maps, globes, prize-books and libraries, \$20,275, increase, \$4,692.

3. For sites and building of schoolhouses, \$312,342, decrease, \$29,576.

4. For rent and repairs of schoolhouses, etc., \$565,626, increase, \$40,602.

5. Total expenditure for all Public School purposes, \$3,108,430, increase, \$81,456.

6. Balances of school moneys not paid at the end of the year when the returns were made, \$462,302, increase, \$19,286.

7. The average cost per pupil, based on *total attendance*, was \$6.40 for rural districts, etc., \$8.51 for cities, \$4.81 for towns, being for the whole Province, \$6.69; based on *average attendance* it was \$11.80, \$14.45, \$12.44, and \$14.42 for rural districts, etc., cities, towns, and province, respectively.

8. Teachers' salaries represent 71 per cent. of the amounts expended; maps, apparatus, etc., $\frac{60}{100}$; sites and buildings, 10 per cent; and rents, repairs, etc., $18\frac{35}{100}$ per cent.

Particulars in detail will be found in Table A.

11. SCHOOL POPULATION AGES OF PUPILS PUPILS ATTENDING PUBLIC SCHOOLS— AVERAGE ATTENDANCE.

The School Act of 1881 requires every Municipal Council, after the first of January, in each year, to cause its Assessor to set down on the annual assessment roll, in separate columns, the number of children of the ages, over sixteen and under twenty-one, and between seven and thirteen, in addition to the column between five and sixteen.

The law at present requires that the trustees' returns of school population shall include the whole number of children resident in their school division; and confers the *equal right* of attending the schools upon all residents in such division, between the ages of five and twenty-one years.

1. The school population (comprising only children between the ages of five and sixteen years) reported by trustees was 478,791, decrease, 5,026. The school population and total attendance have been diminishing for some years.

2. The number of pupils between the ages of five and sixteen years attending the schools, 462,661; decrease, 4,517. Number of pupils of other ages attending the schools, 11,708; decrease, 2,626. Total number of pupils attending the schools, 464,369; decrease, 7,143.

3. The number of boys attending the schools, 243,671; decrease, 3,295. The number of girls attending the schools, 220,698; decrease, 3,848.

4. The number of children between seven and thirteen years of age reported as not attending any school for 110 days during the year, was 88,432. The number between seven and thirteen reported as not attending any school whatever, 7,266 ; or one and a-half per cent. of the whole school population. By the School Act of 1881, now in force, the parent or guardian of every child between the ages of seven and thirteen is required to cause such child to attend a Public School for eleven weeks in each of the two terms of the Public School Year, and the attendance must be during the whole time, in each week, except in cases where half-time is allowed.

5. The average attendance, viz., the aggregate daily attendance divided by the number of legal teaching days in the year, being 220 for rural, and 212 for urban schools, was 215,561, increase 1,385. It is satisfactory to note that, while the total school population and attendance were slowly decreasing, the average attendance increased.

6. The percentage of average attendance, as compared with the total number attending school, was for rural districts, forty-three ; cities, fifty-nine ; towns, fifty-five ; Province, forty-six ; increase, one per cent.

7. The percentage of pupils under five to the total number attending school was $\frac{25}{100}$; for pupils between five and sixteen, $\frac{97\frac{4}{10}}{100}$; for those between seventeen and twenty-one $\frac{2\frac{20}{100}}{100}$; and for those over twenty-one,

8.	9 per cent. of the pupils attended for less than	20 days during the year.
17	"	from 20 to 50.
25	"	" 51 to 100.
22	"	" 101 to 150.
23	"	" 151 to 200.
4	"	" 201 to whole year.

9. 52 per cent. of the pupils were boys ; 48 per cent. girls.

10. The average attendance of pupils was about twelve per cent. of the estimated total population.

Particulars in detail will be found in Table B.

III.—CLASSIFICATION OF PUPILS AND NUMBER IN THE DIFFERENT BRANCHES OF INSTRUCTION.

This table shows the number of pupils as classified under the present system.

First Class.....	164,035
Second Class.....	106,482
Third Class.....	113,980
Fourth Class.....	70,104
Fifth Class.....	8,919
Sixth Class.....	849

The percentage in the several classes, as compared with the whole number of pupils attending school, was as follows :

Class	Per cent.
First Class.....	35
Second Class.....	23
Third Class.....	25

Class.	Percent.
Fourth Class.....	15
Fifth Class.....	2
Sixth Class.....	19 100

The numbers in the principal subjects of instruction were:

Spelling.....	411,872
Writing.....	409,016
Arithmetic.....	415,786
Drawing.....	222,095
Geography.....	273,397
Vocal Music.....	147,283
Grammar and Composition.....	208,949
History.....	95,986
Object Lessons.....	165,702
Drill and Calisthenics.....	100,531

The percentage in the principal subjects of instruction, as compared with the whole number of pupils attending school, was as follows:

	Percent.
Spelling.....	88
Writing.....	88
Arithmetic.....	90
Drawing.....	48
Geography.....	59
Vocal Music.....	32
Grammar and Composition.....	45
History.....	21
Object Lessons.....	36
Drill and Calisthenics.....	22

Particulars in detail will be found in Table C.

IV.—NUMBER OF TEACHERS—ANNUAL SALARIES—CERTIFICATES.

1. *Number of Teachers, Male and Female.*—In the 5,252 schools reported, 6,911 teachers have been employed, increase 54; of whom 2,829 were male teachers, decrease, 234; and 4,082 were female teachers, increase, 287. There were 1,253 more female than male teachers.

2. *Annual Salaries of Teachers.* The highest salary paid to a male teacher in a *county*, \$800; the lowest, \$120; in a *city*, the highest, \$1,200; the lowest, \$275; in a *town*, the highest, \$1,000; the lowest, \$200. Salaries of teachers, male and female, are quickly but surely advancing in rural districts, and in cities, towns and villages. In calculating the average salaries, teachers, being members of religious orders, are omitted. The average salary of male teachers in *counties*, including incorporated villages, \$394; of female teachers, \$252; in *cities*, of male teachers, \$764; of female teachers, \$462; in *towns*, of male teachers, \$605—of female teachers, \$277. In counties, not including incorporated villages, the average salary of male teachers was \$388; of female teachers, \$250. In incorporated villages, male teachers, \$515—female, \$256. The average salary of male teachers in the province was \$422—of female, \$271.

3. The average salaries for the different Counties of the Province, not including incorporated villages, were as follows :

	MALE.	FEMALE.		MALE.	FEMALE.
	\$			\$	\$
Glenzarry.....	334	207	Halton.....	422	298
Steele.....	337	216	Westworth.....	442	278
Dundas.....	308	214	Brant.....	457	288
Pres. tt and Russell.....	330	204	Lincoln.....	394	289
Carleton.....	361	251	Welland.....	391	276
Greenville.....	319	209	Halimaund.....	395	281
Leeds.....	323	214	Norfolk.....	395	263
Lanark.....	346	191	Oxford.....	447	280
Renfrew.....	301	210	Waterloo.....	450	272
Frederick.....	292	224	Wellington.....	406	271
Lennox and Addington.....	363	224	Durham.....	368	304
Prince Edward.....	376	267	Grey.....	383	270
Hastings.....	401	260	Perth.....	435	300
Northumberland.....	382	280	Huron.....	416	272
Darham.....	388	278	Brace.....	404	283
Peterboro.....	358	252	Midlesex.....	440	327
Hawthorn.....	278	198	Elgin.....	394	291
Victoria.....	328	245	Kent.....	461	326
Ontario.....	403	301	Lambton.....	408	295
York.....	425	270	Essex.....	417	327
Peel.....	391	313	Districts.....	320	245
Simcoe.....	399	270			

4. The number of teachers who had attended the Normal Schools at Toronto or Ottawa, 1,853, a decrease of 20.

5. *Teachers' Certificates.*—Total number of certificates or licensed teachers reported, 6,911, increase, 54 ; Provincial Certificates, First Class, 211, decrease, 35 ; Second Class, 2,167, decrease, 2 ; County Board Certificates of the Old Standard, First Class, 183, decrease, 33 ; Second Class, 71, decrease, 51 ; Third Class Certificates, 3,426, decrease, 45 ; Interim Certificates, 603, increase, 194 ; other Certificates, 250, increase, 26.

Particulars in detail will be found in Table D.

V.—SCHOOL BOARDS AND RURAL SCHOOL CORPORATIONS.

1. The number of *Urban School Boards* was as follows :—In Cities, 20 ; in Towns, 99 ; in Incorporated Villages, 134, being a total of 253.

2. The number of *Urban School-houses* was as follows :—In Cities, 144 ; in Towns, 203 ; in Incorporated Villages, 182. Total, 529.

3. The number of *Township School Boards* was ten, that is to say, in the following townships :—Anson, Brunel, Christie, Enniskillen, Lutterworth, Macaulay, Morrison, McKellar, Sault St. Marie, and Tuckersmith.

4. The number of *Rural School Sections*, 4,787. The number of *Rural Schools* reported as kept open, 4,723 ; of *Village Schools*, 182.

5. The number of *Rural School-houses*, 4,755 ; of *Village School-houses*, 182.

6. The number of school-houses reported, 5,284, of which 1,820 were brick, 504 stone, 2,343 frame or concrete, 617 log. Brick, stone and frame school houses are increasing. Log school-houses are decreasing rapidly : in 1870 there were 1,406 log school-houses.

7. *Titles to School Sites.*—Freehold, 5,154 ; rented, 130.

8. *School Visits.*—By Inspectors, 12,381; by trustees, 17,283; by other persons, 47,581. Total school visits, 77,245. Trustees especially are bound to show their zeal and interest in Public School education by personal visits to the schools.

9. *School Lectures.*—By Inspectors, 340; by other persons, 160.

10. *Time of keeping the school open.*—The average time of keeping the schools open, exclusive of holidays, vacations, and Sundays, was *two hundred and seven days* in 1883. The actual number of legal teaching days was 220 for rural and urban schools not united, or in the same city, town, or village, with High Schools; and 212 for urban and rural schools united, and in the same city, town, or village, with High Schools.

11. *Public School Examinations.*—The whole number of Public School Examinations was 6,997. In each school a public *quarterly* examination is required to be held, and the teacher is directed to give notice to trustees and parents of pupils, and to the school visitors resident in the section. It is intended that such examinations be tests of efficiency on the part of teachers, and of the progress of pupils.

12. *School Prizes and Merit Cards.*—The number of schools in which prizes are reported as having been distributed, was 1,406.

13. *Prayers and Ten Commandments.*—Of the 5,252 schools reported, the Scriptures only were read in 334; prayers only in 1864. Both Scriptures and prayers in 2,772; and Scriptures with prayers by both teachers and pupils in 906. While the Public Schools Act provides that "No person shall require any pupil in any Public School to read or study from any religious book, or to join in any exercise of devotion or religion objected to by his or her parents," the Department has framed regulations of a recommendatory nature on the subject, with forms of prayers, in the earnest hope that school boards, trustees, and teachers may thus be better enabled to impress upon their pupils the principles and duties of our common Christianity.

14. *Maps.*—Maps were used in 5,119 schools. Total number of maps used in schools, 39,812.

See Table E.

2.—Roman Catholic Separate Schools.

VI.—THE ROMAN CATHOLIC SEPARATE SCHOOLS.

1. The number of Roman Catholic Separate Schools was 194; increase during the year, 1.

2. *Receipts.* The amount apportioned and paid by the Department of Education from the Legislative Grant to Separate Schools, according to average attendance of pupils, as compared with that at the Public Schools in the same Municipalities, was \$14,400; increase, \$19. The amount of school *rates* from the supporters of Separate Schools, \$108,634; increase, \$11,383. The amount *subscribed* by supporters of Separate Schools, and from other sources, \$43,254; decrease, \$11,851. Total amount received from all sources, \$166,289; decrease, \$449.

3. *Expenditure.* For payment of teachers, \$91,702; increase, \$7,606. For maps, prize books, and libraries, \$1,655; increase, \$352. For sites and building school-houses, \$23,325; decrease, \$13,535. For other school purposes, \$36,929; increase, 4,848. Total amount expended, \$153,611; decrease, \$728. Balances, \$12,678; increase, \$279.

4. *Pupils.* The number of pupils reported as attending the Separate Schools, 26,177; increase, 29. *Average attendance*, 13,705; increase, 131.

5. The percentage of average attendance, as compared with total number attending school, was for rural districts, forty six; cities, fifty five; towns, fifty five; Province, fifty-two.

6. The whole number of teachers employed in the Separate Schools, 397; increase,

7. Male teachers, 97; decrease, 1. Female teachers, 300; increase, 8.

7. The average salary of male teachers was \$352; of female, \$188. This is considerably below the Public School standard; but it must be remembered that quite a number of the Separate School teachers are members of religious orders, receiving merely nominal salaries.

8. The average cost per pupil based on *total attendance* was \$5.18 for rural districts ; \$6.07 for cities ; \$6.25 for towns ; for the Province, \$5.87 ; based on *average attendance*, it was \$11.31, \$11.07, \$11.35 and \$11.21, for rural districts, etc., cities, towns, and Province, respectively.

9. Table F also shows the branches taught in the Separate Schools, and the number of pupils in each branch ; the number of schools using maps, etc.

3.—High Schools.

VII.—RECEIPTS AND EXPENDITURE—PUPILS—NUMBER OF SCHOOLS.

1. *Receipts*.—The amount received by the High School Boards from Legislative grant, for the salaries of teachers, was \$84,990 ; increase, \$685. The amount of *Municipal Grants* in support of High Schools, \$208,161, increase, \$11,722. The amount received for *pupils' fees*, \$30,067 ; increase, \$796. Balances of the preceding year and other sources, \$55,672 ; decrease, \$7,466. Total receipts, \$378,889 ; increase, \$5,738.

2. *Expenditure*.—For salaries of masters and teachers, \$266,317 ; increase, \$12,453 ; for building, rent and repairs, \$20,012, increase, \$651 ; for fuel, books and contingencies, \$60,482, decrease, \$8,192 ; for maps, prize books, apparatus and libraries, \$2,135, increase, \$314. Total expenditure for the year, \$348,946 ; increase, \$5,226. Balance of moneys not paid out at the end of the year, \$29,942 ; increase, \$512.

3. *Number of Pupils*, 11,843 ; decrease, 505.

4. *Number of Schools*, 104.

5. *The percentage of Average Attendance* to total number attending Collegiate Institutes was 54 ; to total number attending High Schools, 55 ; to total number attending Collegiate Institutes and High Schools, 55.

6. *Cost per Pupil* :—

	On Total Attendance.	On Average Attendance.
Collegiate Institutes.....	\$32 21	\$59 89
High Schools.....	28 03	51 10
Collegiate Institutes and High Schools.....	29 47	54 07

7. Thirty-seven High Schools charge fees ; sixty-seven are free ; fifty-four are united with Public Schools.

Particulars will be found in Table G.

VIII.—NUMBER OF PUPILS IN THE SUBJECTS OF STUDY.

1. The details appear in Table H, and the following is a summary of the principal subjects of the total number, as well as the respective percentages of the whole number of pupils attending :

English Grammar.	Composition.	Reading.	History.	Geography.	Arithmetic.	Book-keeping.	Algebra.	Latin.	Greek.	French.	German.	Music.	Drawing.
11815	11707	9939	11551	11518	11767	4849	10296	4439	903	5318	961	1360	3538
or 100	or 100	or 84	or 99	or 99	or 100	or 41	or 87	or 38	or 9	or 45	or 9	or 12	or 30
per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.	per ct.

IX.—ACCOMMODATION AND MISCELLANEOUS.

1. Table I. shows that the number of pupils who matriculated at any University was 277; who entered mercantile life, 708; who became occupied with agriculture, 583; who joined any learned profession, 868. The following Table exhibits the number furnished by the High Schools to these occupations for each year, during the past ten years:

Year.	Matriculated.	Mercantile.	Agriculture.	Learned Profession.
1874	99	544	319	321
1875	100	454	278	326
1876	126	495	300	427
1877	145	555	328	564
1878	183	445	417	633
1879	248	565	535	693
1880	209	731	555	625
1881	280	859	598	576
1882	272	881	646	751
1883	277	768	583	868

2. The highest salary paid Head Master, \$2,250; lowest, \$636; average salary of Head Master, \$1,068. 52 Head Masters were graduates of Toronto University; 95 (including Toronto, of Canadian Universities; 7 of British Universities; 2 Certificates.

3. The total number of teachers was 347.

4. For particulars as to school accommodation, maps, globes, etc., see also this Table, and for name, salary, university and degree of the Headmaster of each Collegiate Institute and High School, number of assistants, etc.

X.—GENERAL STATISTICAL ABSTRACT.

Table K is a general Statistical Abstract, exhibiting the state and progress of Education in Ontario from 1874 to 1883 inclusive.

XI.—COMPARATIVE STATEMENT.

- 1. Between Ten States of the American Union and the Province of Ontario.
- 2. Between Ten Cities of the American Union and Ten of the Province of Ontario.
- 3. Between the Three Kingdoms of England and Wales, Ireland and Scotland, and the Province of Ontario.

1. BETWEEN TEN STATES OF THE AMERICAN UNION AND THE PROVINCE OF ONTARIO.

STATE.	cho l Age.	School Population.	No. of Pupils Enrolled.	Average Attendance	Percentage of Pupils enrolled to School Population.	Percentage of Average Attendance to No. enrolled.	Total Expenditure.	Cost per capita of School Population.	Cost per capita of Pupils enrolld.	Cost per capita of Average Attendance
California	5-17	241257	162855	165541	78	64	3047065	13 15	16 95	26 39
Connecticut	4-16	143745	115581	76028	83	64	1476691	8 75	10 58	17 41
Illinois	6-21	1062222	701627	425838	70	61	7858114	7 65	10 68	16 61
Massachusetts	5-15	312680	325239	233108	104	72	5756442	16 06	16 44	21 54
Michigan	5-20	518294	371743	219328	72	59	3448233	5 97	7 35	12 45
New York	5-21	1662122	1021282	529339	62	55	1095102	6 57	10 69	19 37
Ohio	6-21	106337	744738	468141	70	63	813992	6 98	9 85	15 68
Pennsylvania	6-21	1422574	931749	599637	66	64	7994765	4 82	9 26	11 45
Tennessee	6-21	545875	283468	186569	72	61	638009	1 17	2 25	3 33
Wisconsin	4-20	491358	360122	190878	61	63	2279103	1 68	4 7	13 02
Ontario	5-16	478791	463369	215561	97	146	3408330	5 84	6 02	12 97

* In making these calculations, only the interest on amounts expended for permanent objects, viz.: sites, buildings, etc., is added to the current expenditure.

4 In explanation of the small percentage for Ontario, it might be stated that, apart from the lesser number of teaching days in the States, the system of computing the average attendance is not the same. In Ontario, the result is obtained by dividing the total average attendance by the total number of teaching days; in the United States, the divisor is the actual number of teaching days. The average number of teaching days in the United States is much less than in this Province; thus California has 113; Connecticut, 180; Illinois, 149; Massachusetts, 178; Michigan, 154; New York, 178; Ohio, 155; Pennsylvania, 146; Tennessee, 70; Wisconsin, 175; while Ontario has an average of 207 teaching days.

2. BETWEEN TEN CITIES OF THE AMERICAN UNION AND TEN OF THE PROVINCE OF ONTARIO.

CITIES	Sexes Ave.	School Population.	No. of Pupils enrolled.	Average Attendance.	Percentage of Pupils enrolled to School Population.	Percentage of Average Attendance to No. enrolled.	Total Expenditure.	Cost per child of School Population.	Cost per Pupil enrolled.	Cost per child of Average Attendance.
Baltimore	6.21	86061	47048	29424	54	63	681921	7.84	14.49	23.72
Boston	5.15	61666	51325	15647	89	84	1770067	28.67	39.68	44.36
Boston	5.21	56000	18006	14555	33	73	347591	6.20	18.99	28.69
Chicago	6.21	137066	66485	45055	49	68	1316596	8.87	18.99	27.00
Chicago	6.21	87997	33592	27279	40	77	687162	7.89	19.31	25.19
Chicago	6.21	62412	24836	17017	47	69	420419	8.02	16.69	24.69
New York	6.18	61456	24401	14566	40	60	274844	4.47	11.26	18.57
New York	5.21	366000	274040	133461	70	49	3660983	9.39	13.47	27.71
New York	5.21	37000	13381	8788	36	66	211179	5.74	16.00	24.53
New York	6.29	106572	53965	35942	52	67	762174	7.16	14.12	21.21
Baltimore	5.16	26410	2315	1274	89	55	16363	6.27	17.13	24.74
Baltimore	5.16	59000	2382	1395	80	59	16989	5.66	14.13	19.14
Chicago	5.21	2140	2436	1111	88	36	19600	7.98	9.08	17.11
Chicago	5.21	8048	8267	4846	93	59	66165	7.42	8.00	13.65
Kansas	5.21	4390	3649	1941	84	53	29187	4.63	5.33	10.40
London	5.21	400	4763	2444	98	53	37572	7.63	7.79	14.69
London	5.21	6961	5649	3260	82	58	59958	8.54	10.51	18.29
St. Charles	5.21	2560	2398	1267	94	53	16632	6.46	6.90	13.05
St. Thomas	5.21	2500	2597	1269	100	55	14638	6.23	6.33	9.76
Toronto	5.21	20000	18408	11222	92	65	178459	8.92	9.69	14.97

3. BETWEEN THE THREE KINGDOMS OF ENGLAND AND WALES, IRELAND AND SCOTLAND, AND THE PROVINCE OF ONTARIO.

England and Wales.

COUNTRIES.	No. of Schools.	No. of (Certificated and Assistant Teachers.	No. of Pupils on Register.	Proportion of Teachers to average attendance.	Total Population.	School Population.	Average Attendance.	Expenditure.	Percentage of average Population.	Percentage of pupils enrolled to School Population.	Percentage of average attendance to Pupils enrolled.	COST PER PUPIL BASED ON.			
												Total Population.	School Population.	No. enrolled.	Average Attend.
England and Wales	18671	449670	4273304	{ 11 teachers to 63 pupils }	{ 26021703 } { 8218529 }	{ 5 to 15 }	3157214	22651205	12	52	73	c.	c.	c.	c.
Ontario	5252	6911	461339	{ 1 teacher to 31 Pupils. }	{ 1913460 } { 478791 }	{ 5 to 16 }	215561	3108439	12	97	46	c.	c.	c.	c.

+ There were, in addition to this number, 26428 pupil-teachers. If these were included the proportion would be 1 teacher to 41 pupils.

In hand.

COUNTRIES.	COSTS AND PUPILS.									
	No. of Scholars.	No. of Countries and Assistant Teachers.	No. of Pupils in Residence.	Private and Travelling Teachers.	Total Pupil Years.	Average Attendance.	Expenses.	Private Teachers.	Travelling Teachers.	Total Pupil Years.
In hand.	7648	410624	1006559	1 teacher + 43 pupils.	317486	43.67	1100.000	9	43	9
Out of hand.	3252	6301	64339	41 teacher + 31 pupils.	1593400	21561	3108300	12	46	12

* There were, in all, 6430 pupil teachers. If these were included the proportion would be 1 teacher to 27 pupils.

Scotland.

COUNTRIES.	No. of Schools.	No. of Certificated and Assistant Teachers.	No. of Pupils on Register.	Proportion of Teachers to average Attendance.	Total Population.	School Population.	Average Attendance.	Expenditure.	Percentage of average Population for total Population.	Percentage of Pupils enrolled to School Population.	Percentage of average attendance to Pupils enrolled.	Cost per Pupil based on			
												Total Population.	School Population.	No. enrolled.	Average Attendance.
Scotland.....	3002	46308	569241	1 teacher to 63 pupils.	3815572	2 to 151 1182403	133137	£302540	12	48	76	% 1 18	% 3 31	% 8 00	% 10 40
Ontario.....	5252	6311	461369	41 teacher to 31 pupils.	1913460	5 to 461 478791	245561	\$108430	12	97	46	% 1 62	% 6 41	% 6 69	% 11 12

+ There were, in addition, 3642 pupil teachers. If these were included the proportion would be 1 teacher to 44 pupils.



T A B L E S

REFERRED TO IN FOREGOING

STATISTICAL REPORT.

I.—TABLE A.—The Public

COUNTIES (Including Incorporated Villages, but not Cities or Towns.)	RECEIPTS.					
	For Teachers' Salaries (Legislative Grant.)			Municipal, School Grants and Assess- ments.	County Reserve Fund, Balances and other sources.	Total Receipts for all Public School pur- poses.
	Public Schools.	R. C. Separate Schools.	Total.			
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Glengarry	2472 00	247 00	2719 00	19571 07	2957 52	25247 59
Stormont	2057 00	50 00	2107 00	19049 50	2696 80	23853 10
Dundas	2616 00		2616 00	24856 87	4839 60	32312 47
Prescott and Russell	4236 00	414 00	4650 00	34477 36	7396 34	46523 70
Carleton	4116 00	331 50	4447 50	41544 13	9096 44	55088 07
Greenville	2401 00	16 50	2417 50	25200 37	7272 89	34890 76
Leeds	4030 20	17 10	4047 30	33908 48	9260 27	47216 05
Lennox	3862 20		3862 20	32524 07	6811 86	43198 13
Renfrew	6535 00	289 50	6824 50	36552 03	8917 72	52294 25
Frontenac	3125 00	94 00	3219 00	31593 46	8977 09	43789 55
Lennox and Addington	2975 20	42 00	3017 20	28006 18	9370 23	40953 61
Prince Edward	2114 00		2114 00	26299 82	8186 87	36600 69
Hastings	5825 80		5825 80	52804 39	13074 68	71704 87
Northumberland	4644 00	85 00	4729 00	43767 61	14341 03	62837 64
Durham	3493 00		3493 00	41939 57	6972 42	52404 99
Peterborough	3111 00	54 50	3165 50	27584 44	5796 09	36546 03
Haliburton	2176 60		2176 60	8423 65	2100 42	12700 67
Victoria	4407 00		4407 00	48283 22	9322 35	62012 57
Ontario	6281 00		6281 00	56555 17	20425 05	83261 22
York	7527 00	161 00	7688 00	79518 36	40505 42	127711 78
Peel	2707 00	26 50	2733 50	28382 27	11650 08	42765 85
Simcoe	7669 00	48 50	7717 50	75342 15	27663 14	110722 79
Halton	2578 00		2578 00	26092 96	8344 06	37015 02
Wentworth	3536 00	20 50	3556 50	31425 54	13633 27	48615 31
Brant	2250 00		2250 00	25963 27	12545 19	40758 46
Lincoln	2489 00	112 50	2601 50	29242 58	13731 77	45575 85
Welland	3114 00	54 50	3168 50	28221 58	20825 78	52215 86
Haldimand	3285 00		3285 00	33519 29	17553 91	54358 20
North York	3854 00	28 00	3882 00	38803 70	16978 05	59663 75
Oxford	4551 00		4551 00	57154 97	18308 41	80014 38
Waterloo	3902 00	140 50	4042 50	52548 11	31061 44	87652 05
Wellington	6234 00	255 50	6489 50	63968 55	17712 31	88170 36
Dufferin	2868 00		2868 00	23844 30	6441 48	33153 78
Grey	7646 00	271 50	7917 50	75547 78	18629 48	102094 76
Perth	4545 00	75 00	4620 00	48381 28	12423 29	65424 57
Huron	7662 00	87 00	7749 00	82483 13	17789 68	108021 81
Elgin	6905 60	114 50	7020 10	74276 20	17353 92	98650 22
Middlesex	8397 00	112 50	8509 50	91642 68	22286 67	122438 85
Elgin	4152 00		4152 00	46153 35	9894 80	60200 15
Kent	4954 00	219 50	5173 50	59931 11	30899 59	96004 20
Lambton	5548 00	75 50	5623 50	77194 02	27923 44	110740 96
Essex	4300 00	155 50	4455 50	43278 39	24548 67	72282 56
Districts	13492 30	63 82	13556 12	39261 37	9032 94	61850 43
Total	194643 90	3663 42	198307 32	1865678 13	605552 46	2669537 91
CITIES.						
Bellefleur	1030 00	261 50	1291 50	14113 37	1527 02	16931 89
Brantford	1490 00	172 50	1662 50	12545 73	2939 66	17147 89
Cambridge	1168 00	230 50	1398 50	12175 50	6871 66	20445 66
Hamilton	4278 00	828 00	5106 00	54168 31	7000 56	66274 87
Kingston	1565 00	595 00	2160 00	16682 45	3472 42	22214 87
London	2549 00	451 50	3000 50	34663 45	15958 61	53022 56
Ottawa	1582 00	1994 00	3576 00	49898 78	13820 46	67295 24
St. Catharines	1189 00	417 00	1606 00	13850 65	2020 22	17476 87
St. Thomas	1314 00	141 00	1455 00	8812 48	6327 18	16594 66
Toronto	9573 00	1897 50	11470 50	174979 62	6998 85	193448 97
Total	25738 00	6988 50	32726 50	391190 34	66936 64	490853 48

Schools of Ontario.

EXPENDITURE.

For Teachers' Salaries.	For Maps, Apparatus, Prizes and Libraries.	For Sites and building School-houses.	For Rent and Repairs, Fuel and other expenses.	Total Expenditure for all Public School purposes.	Balances.	Average Cost per Pupil.	
						On Total Attendance.	On Average Attendance.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
18363 21	133 59	847 49	3317 11	22661 40	2586 19	4 62	11 09
17689 96	44 98	1278 30	3098 46	22111 70	1741 40	4 91	11 88
21793 12	109 88	3567 01	3126 17	29596 18	3716 29	5 52	12 36
30404 86	200 71	4311 62	5864 52	40781 71	5741 99	4 58	10 74
37674 20	272 82	2908 22	7434 05	48289 29	6798 78	5 49	12 37
26430 05	106 35	672 78	4297 08	31506 26	3384 50	5 57	12 93
32757 26	64 28	287 08	6461 55	39570 17	7645 88	5 78	13 03
29657 90	169 03	1489 86	6352 36	37669 15	5528 98	5 87	12 56
35398 35	290 76	3374 35	5815 55	44879 01	7415 24	5 33	12 89
28884 12	122 71	1463 39	6554 93	37025 15	6764 40	5 61	14 48
29797 88	187 06	1190 45	5502 24	36677 63	4275 98	6 56	12 50
25521 79	33 69	1545 80	4054 14	31155 42	5445 27	7 63	16 14
49939 95	247 46	1352 97	9137 89	60678 27	11026 60	6 12	14 51
38872 78	181 38	3586 44	11512 83	54153 43	8684 21	7 10	17 39
37421 60	224 03	1608 43	7073 19	46327 25	6077 74	6 94	17 08
25924 81	88 76	1612 93	4098 64	31725 14	4820 89	5 63	14 29
8508 85	17 90	626 07	1365 03	10517 85	2182 82	7 13	22 66
42709 24	336 43	6143 81	8563 93	57753 41	4259 16	6 13	15 69
51667 99	660 30	12261 61	10660 89	75250 79	8010 43	7 39	17 23
72615 39	827 44	18550 43	21657 61	113650 87	14060 91	7 65	17 09
29365 33	65 03	1722 34	5914 88	37067 58	5698 27	6 37	16 57
68071 49	644 55	15726 25	12701 48	97143 77	13579 02	6 04	14 79
26858 26	166 36	1252 65	4898 75	33176 02	3839 00	6 79	14 56
33005 58	292 43	1346 43	7082 21	41726 65	6888 66	6 69	14 25
25716 59	313 72	3857 07	5985 54	35872 92	4885 54	8 05	16 92
26408 34	229 42	3131 55	6168 90	35938 21	9637 64	7 78	16 55
28259 46	152 62	1686 06	6681 06	36779 20	15436 66	6 59	15 39
29977 22	81 13	9613 75	6461 80	46133 90	8224 30	7 53	15 59
34823 77	250 08	3276 30	6449 70	44799 85	14863 90	5 66	12 82
51000 34	375 69	4361 80	10309 50	66047 33	13967 05	7 18	15 40
46797 10	407 74	6027 07	9423 31	62655 22	21996 83	7 93	15 73
56243 99	774 98	6674 52	11507 53	75201 02	12969 34	5 88	13 31
20310 90	82 18	6131 15	3381 12	29905 35	3248 43	5 84	16 82
72544 66	771 09	8204 16	10808 57	92328 48	9766 28	5 39	14 83
43343 15	103 25	4945 29	8876 41	57268 10	8156 47	6 22	13 16
79893 76	269 61	3414 05	13339 83	96917 25	11104 56	5 90	12 83
66358 40	380 09	6662 07	12531 02	85931 58	12718 64	5 42	12 57
85119 06	621 18	4674 95	15600 80	106015 99	16422 86	7 00	14 60
42353 79	271 91	705 36	7340 66	50671 72	9528 43	6 12	13 04
48784 56	214 95	16773 74	14083 72	79856 97	16147 23	7 37	17 33
59087 18	485 79	20198 87	17224 95	96996 79	13744 17	8 39	17 54
41796 65	736 84	13738 81	8444 34	64716 64	7565 92	6 84	15 91
36650 32	1129 01	8107 31	8381 59	54268 23	7582 20	8 17	23 07
1714803 21	13139 21	220910 59	349545 84	2298398 85	371139 06	6 40	14 80
9630 02	.....	236 48	6496 54	16363 04	568 85	7 07	12 84
9973 68	1424 36	1123 34	4467 61	16988 99	158 90	7 13	12 18
10167 56	8 75	5833 07	3550 20	19559 58	886 08	9 08	17 14
37871 14	500 00	985 94	26807 94	66165 02	109 85	8 00	13 65
12189 39	73 33	943 12	6981 56	20187 40	2027 47	5 53	10 40
19730 34	181 03	8283 23	9177 33	37371 93	15650 63	7 79	14 69
27421 98	658 50	9544 84	21732 95	59358 27	7936 97	10 51	18 20
11843 34	94 50	.....	4594 16	16532 00	944 87	6 90	13 05
8214 48	50 22	4243 54	1829 39	14337 63	2257 03	6 24	9 76
109930 75	3140 08	29166 11	36221 76	178458 70	14990 27	9 69	14 97
256972 68	6130 77	60359 67	121859 44	445322 56	45530 92	8 51	14 46

I.—TABLE A.—The Public

TOWNS.	RECEIPTS.					
	For Teachers' Salaries (Legislative grant.)			Municipal School Grants and As- sessments.	Clergy Reserve Fund, Balances, and other sources.	Total Receipts for all Public School pur- poses.
	Public Schools.	R. C. Separate Schools.	Total.			
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Albion		92 50	92 50	3861 03	395 80	4349 33
Amherstburg ...	126 00	200 50	326 50	3090 00	1864 01	5280 51
Barnes	678 00	133 50	811 50	5889 91	269 73	6971 14
Berlin	629 00	91 50	720 50	5783 65	1076 53	7580 68
Bothwell	125 00		125 00	1885 00	912 04	2922 04
Bowmanville	499 00		499 00	4081 95	236 32	4817 27
Brampton	588 00		588 00	4100 00	405 32	5093 32
Brickville	782 00	256 00	1038 00	6114 92	7745 12	14898 04
Chatham	1036 00	177 00	1213 00	11748 19	14467 67	27428 86
Clinton	500 00		500 00	3400 00	216 24	4116 24
Cobourg	741 00	134 00	875 00	4450 00	1053 17	6378 17
Collingwood	604 00		604 00	4518 71	802 29	5925 00
Cornwall	517 00	213 50	730 50	4981 90	324 35	6036 75
Dresden	244 00		244 00	4116 14	761 39	5121 53
Dundas	400 00	170 50	570 50	4609 00	816 34	5995 84
Durham	148 00		148 00	1650 00	247 81	2045 81
Galt	764 00	77 50	841 50	5886 00	3519 53	10247 03
Godolphin	667 00	57 00	724 00	5250 00	359 22	6333 22
Hamilton	243 00		243 00	2137 00	37 26	2417 26
Ingersoll	705 00	64 00	769 00	5622 55	872 22	7263 77
Kincardine	355 00		355 00	3900 00	736 19	4991 19
Lindsay	424 00	261 50	685 50	8628 10	613 81	9927 41
Lastow	338 00		338 00	2604 25	245 57	3187 82
London East	591 00		591 00	4801 56	615 86	6008 42
Meaford	243 00		243 00	2200 00	91 11	2534 11
Mitchell	314 00		314 00	3194 43	105 09	3613 52
Milton	317 00		317 00	1624 00	3045 54	4986 54
Mount Forest	615 00		615 00	3015 00	352 79	3982 79
Napanee	634 00		634 00	3740 00	93 03	4467 03
Newmarket	335 00	53 00	388 00	3280 13	1592 41	5260 54
Niagara	195 00		195 00	1400 00		1595 00
Niagara Falls	226 00	83 00	309 00	3488 24	2970 16	6767 40
Orillia	202 00	34 50	236 50	2008 49	55 75	2300 74
Orangeville	549 00		549 00	4983 40	480 00	6012 40
Oshawa	339 00	77 00	416 00	3821 00	445 37	4682 37
Oshawa	554 00	68 50	622 50	5762 25	828 78	7213 53
Owen Sound	749 00	39 00	788 00	5325 18	431 96	6545 14
Palmerton	242 00		242 00	1923 00	32 30	2197 30
Pars	373 00	57 50	430 50	4220 35	3270 30	7921 15
Pembroke	225 00	161 50	386 50	4477 89	1078 17	5942 56
Penetanguishene	114 00		114 00	72 76	781 99	968 75
Perth	562 00	75 00	637 00	2733 35	627 35	3997 70
Peterborough	654 00	290 00	944 00	10914 10	3914 28	15772 38
Petrolia	456 00		456 00	4500 00	1601 21	6557 21
Pictou	488 00	58 50	546 50	4517 91	922 76	5987 17
Port Hope	1045 00		1045 00	8300 00	257 17	9602 17
Prescott	415 00	144 00	559 00	3742 09	673 00	4974 09
Redstown	238 00		238 00	2090 20	8620 38	10948 58
Sanwich	144 00		144 00	144 00	1798 87	2086 87
Sarnia	399 00	113 00	712 00	8849 25	577 51	10138 76
Sarnia	330 00		330 00	2500 00	620 22	3450 22
Sarnia	495 00		495 00	2626 37	103 15	3224 52
Smith's Falls	274 00		274 00	2632 96	237 25	3144 25
St. Marys	579 00	64 50	643 50	4290 60	7376 95	12311 05
Stratford	1136 00	211 00	1347 00	8270 11	1806 56	11423 67
Strathroy	639 00		639 00	4457 69	314 51	5411 11

Schools of Ontario.

EXPENDITURE.

For Teachers' Salaries.	For Maps, Apparatus, Prizes and Libraries.	For Sites and Building School-houses.	For Rents, and Re- pairs, Fuel and other expenses.	Total Expenditure for all Public School purposes.	Balances.	Average cost per Pupil.	
						On total attend- ance.	On average attend- ance.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
2507 84		192 64	918 50	3618 98	730 35	4 49	10 61
3415 00	32 00	250 00	1401 02	5098 02	182 49	7 64	12 58
5400 00	16 76	340 25	1192 68	6949 69	21 45	7 12	10 28
4603 03	16 05		1736 51	6355 59	1225 09	6 87	15 09
1446 28			344 07	1790 35	1131 69	6 55	13 56
3624 96		236 93	741 25	4603 14	214 13	5 52	9 96
2789 50		448 00	1476 16	4713 66	379 66	6 17	10 57
6412 10		5124 23	3094 96	14631 29	266 75	8 85	15 97
11240 00	12 43	1660 94	4854 65	17768 02	9660 84	8 36	16 00
3057 97	167 37		828 80	4054 14	62 10	6 59	11 61
4350 00	12 40		1129 45	5491 85	886 32	5 63	10 38
4090 00		353 70	1003 57	5447 27	477 73	4 63	10 20
4035 00		411 00	1271 14	5717 14	319 61	4 44	9 62
2250 00		614 80	389 31	3254 11	1867 42	6 44	13 01
4206 60	49 62	599 18	992 99	5848 39	147 45	7 15	12 01
1345 25	12 65	448 00	239 91	2045 81		7 00	13 63
5888 13	27 00	14 50	1357 06	7286 69	2960 34	5 79	10 31
4436 02	25 00		1575 62	6036 64	296 58	6 11	9 93
1816 87			556 40	2373 27	43 99	4 61	8 80
4755 00		280 09	1538 74	6573 83	689 94	6 60	11 89
3522 75			885 93	4408 68	582 51	5 19	11 10
6407 84		557 15	2906 07	9871 06	56 35	6 70	13 65
2700 00	5 00		456 29	3161 29	26 53	5 27	8 66
3908 16	4 00	930 00	944 74	5786 90	221 52	5 01	8 49
2131 25	5 00		393 18	2529 43	4 68	4 88	9 17
2796 00	25 00		772 00	3593 00	20 52	6 44	11 23
1907 00		378 00	938 71	3223 71	1762 83	8 46	15 58
2295 00			1135 79	3430 79	552 00	5 72	10 18
3225 46			1223 06	4448 52	18 51	5 24	9 46
2492 00			919 98	3411 98	1848 56	7 13	12 69
1100 00			412 77	1512 77	82 23	5 56	10 08
2506 28	27 05	500 00	837 99	3871 32	2896 08	7 74	13 08
1610 00			686 06	2296 06	4 68	5 65	10 73
3659 00	9 00	44 59	1999 78	5712 37	300 03	7 66	15 73
3453 20		272 00	914 39	4639 59	42 78	5 13	9 31
4454 39	87 48		2532 16	7074 03	139 50	6 94	12 00
4867 08	0 25		1606 47	6473 80	71 34	6 57	11 03
1686 00			473 03	2159 03	38 27	4 56	9 34
3285 42	129 50		1050 65	4465 57	3455 58	5 75	10 19
4657 27	20 00	329 63	888 65	5895 55	47 01	7 96	13 71
646 00			53 55	699 55	269 20	3 63	7 77
2975 83			764 70	3740 53	257 17	5 94	10 14
7572 90	47 89	2032 42	2318 54	11971 75	3800 63	6 18	10 96
3330 00			3227 21	6557 21		7 02	12 81
4024 12	22 99	132 41	1143 81	5323 33	663 84	8 19	14 35
6376 08		2083 00	1117 55	9576 63	25 54	8 71	14 19
3192 00	17 09	326 00	1264 32	4799 41	174 68	7 97	13 37
2022 63	4 50	7743 00	658 59	10428 72	519 86	20 82	42 22
1492 00	35 00		436 87	1963 87	123 00	7 31	15 60
4980 18			5002 23	9982 41	156 35	7 90	14 00
2470 00	3 50		575 34	3048 84	401 38	4 96	8 47
2197 42			1027 10	3224 52		5 94	11 81
2336 53	6 35	160 00	616 81	3119 69	24 52	6 01	9 12
3430 25			8325 72	11755 97	555 08	12 12	24 04
7934 60	68 45	29 16	2099 92	11032 13	391 54	5 84	10 39
3934 77	6 30		1404 50	5345 57	65 54	6 37	11 38

L.—TABLE A.—The Public

TOWNS.	RECEIPTS.					
	For Teachers' Salaries (Legislative Grants.)			Municipal School Grants and As- sessments.	Clergy Reserve Fund, Balances, and other sources.	Total Receipts for all Public School pur- poses.
	Public Schools.	R. C. Separate Schools.	Total.			
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Thorold	232 00	100 00	341 00	3008 00	1050 39	4408 39
Tilsenbourg	257 00		257 00	2304 24	228 68	2789 92
Trenton	301 00	133 00	434 00	4385 00	185 94	5004 94
Walkerton	522 00		522 00	2405 55	1912 35	4929 90
Waterloo	282 00		282 00	3000 00	539 50	3821 50
Welland	412 00		412 00	3600 00	212 65	4224 65
Wintby	518 00	48 00	566 00	4907 50	165 28	5638 78
Windsor	892 00		892 00	8318 54	870 65	10081 19
Winzham	403 00		403 00	2359 55	788 31	3550 86
Woodstock	882 00		882 00	8580 00	5070 40	14532 40
Total	30685 00	3749 00	34434 00	281172 90	94732 86	410339 76
TOTALS.						
Total Counties, etc	194643 90	3663 42	198307 32	1865678 13	605552 46	2669537 91
" Cities	25738 00	6988 50	32726 50	391190 34	66936 64	490853 48
" Towns	30685 00	3749 00	34434 00	281172 90	94732 86	410339 76
Grand Total, 1883	251066 90	14400 92	265467 82	2538041 37	767221 96	3570731 15
" " 1882	251356 20	14381 76	265737 96	2447214 26	757037 74	3469989 96
Increase		19 16		90827 11	10184 22	100741 19
Decrease	289 30		270 14			
Percentage of Total			7½	70½	22	

NOTE.—Tables A, B, C, D, E, include the statistics of Roman Catholic Separate Schools. These

Schools of Ontario.

EXPENDITURE.

For Teachers' Salaries.	For Maps, Apparatus, Prizes and Libraries.	For Sites and Building School houses.	For Rents and Re- pairs, Fuel and other expenses.	Total Expenditure for all Public School purposes.	Balances.	Average cost per Pupil.	
						On Total Attend- ance.	On Average Attend- ance.
\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
3177 23	70 00		855 22	4102 45	305 94	6 11	11 93
2000 00	34 20		496 39	2530 59	259 33	6 20	12 05
2962 48			1428 83	4391 31	613 63	5 26	10 66
2639 00			1495 65	4134 65	795 25	7 14	14 40
2624 88	5 00		549 10	3178 48	642 52	6 36	10 39
2115 00			1281 64	3396 64	828 01	9 15	19 19
4336 00			1301 08	5637 08	1 70	8 05	15 15
7058 68			2417 73	9476 41	604 78	7 30	10 87
2070 00			1375 30	3445 30	105 56	5 82	10 87
6178 80		4579 69	3462 87	14221 36	311 04	11 58	20 67
238411 03	1004 83	31071 31	94221 06	364708 23	45631 53	6 84	12 44
1714803 21	13139 21	220910 59	349545 84	2208308 85	371139 06	6 40	14 80
256972 68	6130 77	60359 67	121859 44	445322 56	45530 92	8 51	14 45
238411 03	1004 83	31071 31	94221 06	364708 23	45631 53	6 84	12 44
2210186 92	20274 81	312341 57	565626 34	3108429 64	462301 51	6 69	14 42
2144448 53	15582 97	341917 66	525024 80	3026973 96	443016 00	6 42	14 13
65738 39	4691 84	29576 09	40601 54	81455 68	19285 51	0 27	0 29
71	18 10	10	18 10				

statistics are, however, given in detail in Table F.

II.—TABLE B.—The Public

COUNTIES. (Including incorporated Villages, but not Cities or Towns.)	School Population between 5 and 16 years of age.	PUPILS ATTENDING						
		Pupils under 5 years of age.	Pupils between 5 and 16 years of age.	Pupils between 17 and 21 years of age.	Pupils over 21 years of age.	Total number of Pupils of all ages attending school.	Boys.	Girls.
Georgetown	4925	10	4812	81	1	4904	2614	2290
Starnet	4710	23	4372	98	6	4499	2406	2093
Dundas	5452	5	5041	127	4	5177	2678	2499
Prescott and Russell...	9354	52	8701	186	3	8892	4512	4380
Carleton	9479	21	8602	159	3	8785	4608	4177
Greenville	5614	16	5489	144	3	5652	2946	2706
Leeds	6618	17	6607	204	10	6838	3585	3253
Lanark	6680	19	6328	66	5	6418	3319	3099
Renfrew	8600	31	8269	122	3	8425	4388	4037
Frontenac	6532	18	6449	129	1	6604	3437	3167
Lennox and Addington	5770	14	5418	161	1	5594	2920	2674
Prince Edward	4000	7	3856	218	1	4082	2233	1849
Hastings	10364	20	9685	200	4	9909	5166	4743
Northumberland	7797	4	7343	271	5	7623	4147	3476
Durham	6643	37	6399	237	5	6678	3565	3113
Peterborough	5830	17	5521	98	2	5638	2955	2683
Haldimont	1610	26	1427	22		1475	779	696
Victoria	9565	15	9177	210	22	9424	5037	4387
Ontario	10328	8	9808	367	3	10186	5460	4726
York	15000	196	14218	422	13	14849	7897	6952
Peel	5715	6	5579	216	11	5812	3054	2758
Simcoe	16033	22	15532	497	21	16072	8405	7667
Halden	4814	4	4684	189	7	4884	2603	2281
Wentworth	6113	16	6003	212	5	6226	3364	2872
Brant	4560	4	4315	136		4455	2349	2106
Lincoln	4494	8	4460	150	1	4619	2408	2211
Welland	5500	23	5396	163	5	5587	2989	2598
Haldimand	6651	26	5931	171	1	6129	3197	2932
North York	7840	27	7550	332	9	7918	4143	3775
Oxford	9025	11	8840	345	9	9205	4915	4290
Waterloo	8080	7	7785	110	4	7906	4279	3627
Wellington	12470	20	12385	374	7	12786	6884	5902
Dufferin	5061	18	4893	203	9	5123	2772	2351
Grey	16936	49	16450	588	20	17107	9262	7845
Perth	9100	27	9041	140	4	9212	4908	4304
Huron	16496	37	15955	397	21	16410	8696	7714
Bruce	15856	43	15273	354	10	15680	8261	7419
Middlesex	15164	48	14661	411	11	15131	8040	7091
Elgin	8506	16	7905	338	21	8280	4351	3929
Kent	10680	27	10431	360	19	10837	5752	5085
Lambton	11450	45	11273	229	4	11551	6067	5484
Essex	9595	18	9240	190	13	9461	4992	4469
Districts	6830	22	6485	136	1	6644	3460	3184
Total.	361840	1080	347596	9713	308	358697	189893	168894
CITIES.								
Bellefleur	2610		2311	4		2315	1160	1155
Brantford	3000		2378	3	1	2382	1222	1160
Georgina	2450	1	2147	8		2156	1079	1077
Hamilton	8918	15	8222	20		8257	4181	4076
Kingston	4360		3605	44		3649	1888	1761
London	4900	6	4768	19		4793	2477	2316
Ottawa	6951	10	5611	28		5649	3240	2409
St. Catharines	2560	3	2380	15		2398	1131	1267
St. Thomas	2300		2286	10	1	2297	1133	1164
Toronto	20000	11	18340	47	1	18408	9329	9079
Total.	58049	46	52057	198	3	52304	26840	25464

Schools of Ontario.

THE PUBLIC SCHOOLS.

NUMBER OF PUPILS ATTENDING SCHOOL.						Number of children between 7 and 13 years of age not attending any school for 110 days during the year.	Number of children between 7 and 13 years of age not attending any school during the year.	Average Attendance of pupils.	Percentage of Average Attendance to total number attending school.
Less than 20 days during the year.	20 to 50 days.	51 to 100 days.	101 to 150 days.	151 to 200 days.	201 days to the whole year.				
589	987	1316	1085	765	162	150	1399	2044	42
580	863	1155	943	825	133	53	713	1861	42
564	883	1304	1119	1170	137	61	1411	2314	45
1003	1808	2301	1844	1592	344	595	3137	3798	43
927	1560	2263	1915	1700	420	135	1977	3903	45
503	1092	1511	1326	1064	156	43	1508	2437	43
659	1292	1804	1550	1346	187	54	1450	3036	45
575	982	1541	1513	1462	345	65	1638	2992	42
1026	1654	2356	1735	1456	198	395	2044	3483	47
990	1466	1835	1263	907	143	220	2559	2557	39
753	1140	1499	1211	912	79	25	1611	2125	38
335	692	994	920	915	226	16	659	1930	47
1227	1931	2590	2078	1699	384	467	2791	4183	42
653	1485	2102	1764	1345	274	209	2056	3114	41
659	1313	1797	1475	1213	221	48	929	2712	41
664	1106	1561	1260	875	172	74	1886	2219	39
278	377	445	250	108	17	93	607	464	32
1192	2197	2418	1965	1445	207	139	1993	3680	40
999	1882	2637	2318	1983	367	149	1652	4368	43
1288	2678	3744	3361	3092	686	170	2846	6647	45
552	1099	1570	1371	1111	109	50	1389	2237	39
1528	3096	4297	3678	2744	729	440	3247	6569	41
418	799	1206	1194	1146	121	40	1137	2278	47
558	1034	1573	1471	1319	281	50	1172	2929	47
371	750	1167	1026	937	204	4	721	2120	48
420	745	1105	1025	1144	180	14	1070	2171	47
522	1033	1451	1201	1067	313	213	1059	2389	43
494	938	1512	1431	1429	325	101	1217	2963	49
789	1451	2160	1762	1528	228	65	1299	3493	44
648	1537	2240	2246	2113	421	47	1420	4289	47
480	1148	1857	1951	2098	372	31	1676	3984	51
1071	2419	3515	2886	2484	411	168	3293	5649	44
700	1115	1373	1180	657	98	157	1944	1778	35
1987	3628	5067	3578	2385	462	304	4487	6227	37
635	1401	2294	2399	2097	386	50	1610	4351	47
1320	2794	4032	4030	3571	663	164	3269	7554	46
1477	2890	3857	3780	3208	468	263	3649	6835	44
1122	2315	3323	3421	4144	806	117	2399	7260	48
723	1413	1879	1948	1862	455	26	78	3885	47
1190	2011	2701	2376	2152	407	219	2503	4608	43
1018	1774	2652	2510	3034	563	79	2285	5531	48
1000	1633	2388	2125	2037	278	199	2220	4066	43
864	1431	1851	1383	922	193	255	1334	2352	36
35351	65842	92243	80867	71063	13331	6217	79344	155385	43
125	274	545	465	853	53	.....	444	1274	55
136	281	573	506	879	7	.....	.....	1395	59
121	278	489	528	736	4	.....	.....	1141	53
326	775	1773	1550	3624	209	.....	.....	4846	59
236	418	1007	826	1089	73	.....	.....	1941	53
408	770	1116	1021	1459	19	375	.....	2544	53
302	581	1176	1156	1767	667	.....	644	3260	58
140	299	593	548	799	19	153	136	1267	53
192	297	559	448	796	5	.....	480	1269	55
773	1791	3953	3363	8317	211	.....	.....	11922	65
2759	5764	11784	10411	20319	1267	528	1704	30859	59

II.—TABLE B.—The Public

TOWNS.	School population between 5 and 16 years of age.	PUPILS ATTENDING					Boys.	Girls.
		Pupils under 5 years of age.	Pupils between 5 and 16 years of age.	Pupils between 17 and 21 years of age.	Pupils over 21 years of age.	Total number of Pupils of all ages attending school.		
Almonte	830		806			806	454	352
Amherstburg	791		657	10		667	358	309
Barnes	1150		957	19		976	473	503
Berlin	1161		922	3		925	509	416
Bethwell	300		267	6		273	138	135
Bowmanville	850		833			833	424	409
Brampton	900		762	2		764	405	359
Brockville	1800		1653			1653	818	835
Chatham	2200		2122	2	1	2125	1081	1044
Clinton	650		615			615	280	335
Colborne	1200		969	5	1	975	491	484
Collingwood	1300	1	1169	6		1176	575	601
Cornwall	1350		1281	7		1288	692	596
Dresden	520		500	5		505	246	259
Dundas	962		816	2		818	399	419
Durham	350		288	4		292	145	147
Galt	1358		1260			1260	609	651
Godfrich	1150		982	6	1	989	507	482
Harriston	520		512	3		515	238	277
Ingersoll	1050		986	10		996	508	488
Kincardine	903		844	2		848	391	457
Landsat	1600	5	1446	22	1	1474	717	757
Listowel	650		600			600	308	292
London East	1200		1155			1155	619	536
Meaford	550		512	6		518	252	266
Mitchell	665		557	1		558	277	281
Milton	400		379	2		381	188	193
Mount Forest	650		599	1		600	281	319
Napanee	900	1	843	5		849	442	407
Newmarket	580		470	9		479	267	212
Niagara	344	4	264	4		272	147	125
Niagara Falls	668		497	3		500	243	257
Orkville	500	1	402	3		406	214	192
Orangeville	800		743	3		746	404	342
Orillia	985		903	1		904	464	440
Oshawa	1058		1014	4		1018	508	510
Owen Sound	1060		986			986	500	486
Palmerston	500		471	3		474	253	221
Paris	876		770	7		777	381	396
Pembroke	815		787	4		791	363	378
Peterborough	240		192	1		193	84	109
Perth	750		630			630	304	326
Peterborough	2000		1933	4	1	1938	1025	913
Petrolia	959		934			934	489	445
Pictou	780	2	642	6		650	329	321
Port Hope	1358		1094	5		1099	551	548
Prescott	620		592	10		602	311	291
Ridgeway	500		485	16		501	253	248
Sandwich	280	9	252	8		269	123	146
Sarnia	1365		1259	4		1263	620	643
Seabrook	625		614			614	295	319
Simcoe	620		540	3		543	323	220
Smith's Falls	500		519			519	258	261
St. Marys	1050	9	960	1		970	501	469
Stratford	2000	5	1880	2		1887	1021	866
Strathroy	950		825	14		839	423	416
Tara	700		658	13		671	299	372
Tillamook	450		396	11	1	408	208	200
Tipton	900		833	1		834	427	407
Wabash	650		571	7		578	288	290

Schools of Ontario.

THE PUBLIC SCHOOLS.

NUMBER OF PUPILS ATTENDING SCHOOL.						No. of children between 7 and 13 years of age not attending any school during the year.	No. of children between 7 and 13 years of age not attending school for 110 days during the year.	Average Attendance of pupils.	Percentage of Average Attendance to total number attending school.
Less than 30 days during the year.	20 to 50 days.	51 to 100 days.	101 to 150 days.	151 to 200 days.	201 days to the whole year.				
95	219	206	158	122	6		211	341	43
33	69	129	119	229	88		66	405	61
26	75	126	170	512	67			676	70
62	94	185	254	329	1		212	421	46
18	50	63	49	77	16		59	132	49
56	124	202	170	276	5			462	56
51	81	168	178	286			68	446	59
99	199	409	350	596				916	56
109	294	413	543	677	89			1110	52
54	75	160	209	114	3		124	349	56
82	158	247	202	283	3		193	529	54
128	184	316	273	274	1		334	534	46
156	211	355	220	342	4		284	594	46
43	89	103	90	150	30		152	250	50
67	114	190	197	233	17			487	60
9	46	89	60	72	16		59	150	52
92	144	250	286	464	24		256	707	56
26	95	207	229	432			83	608	62
19	98	103	138	149	8	283	124	270	53
70	121	220	226	319	40		234	553	56
68	118	232	213	201	16		175	397	47
115	207	307	406	436	3		377	723	49
43	88	150	137	180	2	42	109	365	61
70	165	266	242	291	121		175	681	59
43	66	110	108	163	28		122	276	53
26	68	118	116	210	20			320	58
22	49	83	82	138	7		74	207	54
46	69	108	130	229	18			337	56
58	102	188	218	273	10		225	470	56
29	72	96	107	159	16	10	76	269	56
19	33	71	60	77	12		82	150	55
30	55	82	96	187	50		74	296	59
29	52	80	99	146		10	89	214	53
74	95	173	222	180	2	54	210	363	49
64	107	209	218	291	15			498	55
66	120	235	192	369	46	8	269	590	58
71	144	171	196	377	27			587	60
54	52	131	107	96	34		176	231	49
41	89	185	180	265	17		133	438	56
36	89	162	204	215	35			430	58
25	28	35	56	45	4			90	47
35	61	103	139	292			76	369	59
130	243	476	481	608				1092	56
66	97	217	236	318		15	216	512	55
45	66	118	145	240	36			371	57
38	107	210	252	492		22	103	675	62
19	53	126	171	232	1	12	36	359	60
29	74	154	127	116	1		120	247	50
24	44	75	53	72	1			126	48
50	166	293	288	459	7	8	308	713	56
30	75	135	120	252	2	17	139	360	59
41	74	124	124	179	1			273	50
18	43	86	153	180	39		83	342	66
47	126	281	226	229	81		216	489	51
122	218	379	445	713	10			1062	56
61	80	173	180	333	12		76	470	56
49	110	138	131	219	24			344	51
28	64	102	81	107	26			210	51
99	189	281	102	162	1		108	412	49
46	83	118	124	196	11			287	49

II.—TABLE B.—The Public

TOWNS.	School population between 5 and 16 years of age.	PUPILS ATTENDING						
		Pupils under 5 years of age.	Pupils between 5 and 16 years of age.	Pupils between 17 and 21 years of age.	Pupils over 21 years of age.	Total number of Pupils of all ages attending school.	Boys.	Girls.
Waterloo	606	..	500	..	..	500	260	240
Welland	487	..	365	6	..	371	168	203
Whitby	800	..	688	12	..	700	372	328
Windsor	1745	..	1297	1	..	1298	611	687
Wingham	521	..	576	16	..	592	292	300
Woodstock	1230	..	1224	4	..	1228	624	604
Total.....	58902	39	53008	315	6	53368	27028	26340
TOTALS.								
Counties, etc.....	361840	1080	347596	9713	308	358697	189803	168894
Cities.....	58049	46	52057	198	3	52304	26840	25464
Towns.....	58902	39	53008	315	6	53368	27028	26340
Grand Total, 1883.....	478791	1165	452661	10226	317	464369	243671	220698
Do. 1882.....	483817	1352	457178	12573	409	471512	246966	224546
Increase.....								
Decrease.....	5026	187	4517	2347	92	7143	3295	3848
Percentage of Grand Total as compared with total attendance.....			97.12	2.11	0.11		52	48

* The average attendance is calculated in a different manner from that of England or the

Schools of Ontario.

THE PUBLIC SCHOOLS.

NUMBER OF PUPILS ATTENDING SCHOOLS.						No. of children between 7 and 13 years of age not attending any school during the year.	No. of children between 7 and 13 years of age not attending school for 110 days during the year.	Average Attendance of pupils.	Percentage of Average Attendance to total number attending school.
Less than 20 days during the year.	20 to 50 days.	51 to 100 days.	101 to 150 days.	151 to 200 days.	201 days to the whole year.				
19	37	101	95	221	27		81	306	61
51	60	100	92	68		40	256	177	48
60	88	161	149	238	4		242	372	54
68	204	264	371	391			64	872	68
40	88	124	108	189	43		99	317	54
75	164	258	262	468	1		337	688	56
3614	7022	11900	12165	17438	1229	521	7384	29317	55
35351	65842	92243	80867	71063	13331	6217	79344	155385	43
2759	5764	11784	10411	20319	1267	528	1704	30859	59
3614	7022	11900	12165	17438	1229	521	7384	29317	55
41724	78628	115927	103443	108820	15827	7266	88432	215561	46
43610	81621	117941	102644	107814	17882	8086	87444	214176	45
1886	2993	2014	799	1066	2055	820	988	1385	1
9	17	25	22	23	4	1106	19		

United States, the divisor used being the *legal*, not the *actual* number of teaching days.

III.—TABLE C.—The Public

COUNTIES. (Including Incorporated Villages but not Cities or Towns.)	READING.						Spelling.	Writing.	Arithmetic.	Drawing.
	1st Class.	2nd Class.	3rd Class.	4th Class.	5th Class.	6th Class.				
Glengarry	1772	1047	1092	938	55	.....	4526	4138	4090	2198
Stormont	1481	1043	1166	803	6	.....	4074	3588	3534	590
Dundas	1672	1188	1350	934	33	.....	4361	4254	4594	1413
Prescott and Russell	4222	1713	1613	1059	85	.....	5659	6389	6699	1518
Carleton	2578	2069	2322	1535	259	22	6704	7017	6999	1066
Greenville	1716	1217	1426	1216	72	5	4916	4764	4694	697
Leeds	1987	1431	1961	1367	92	.....	6121	5071	5365	1076
Lincoln	2247	1560	1601	902	108	.....	5353	5106	5439	1707
Renfrew	3033	2023	1905	1215	242	.....	5786	6446	6653	1442
Frontenac	2423	1774	1606	759	42	.....	5493	5410	5618	2503
Lennox and Addington...	1703	1205	1758	897	31	.....	4860	4955	4913	2526
Prince Edward	1031	889	1008	1049	105	.....	3744	3783	3753	2501
Hastings	4388	2361	2180	838	130	12	8632	8748	9033	2602
Northumberland	2389	1874	1918	1338	102	2	6728	6956	6929	2450
Purham	2067	1603	1890	871	234	13	5895	6030	5694	3799
Peterborough	2189	1349	1423	652	25	.....	4561	4829	4995	1315
Haldimont	604	398	360	113	.....	.....	1238	1200	1275	112
Victoria	3261	2230	2435	1363	135	.....	8229	8547	8389	4585
Ontario	3105	2189	2494	2188	203	7	9620	8819	9205	4308
York	5164	3210	3675	2577	218	5	12086	13198	12960	7220
Peel	2249	1308	1390	849	16	.....	5080	5273	5243	2769
Simcoe	5585	4206	3774	2396	101	10	12153	13281	13697	4977
Haldon	2159	1304	1092	329	.....	.....	4844	4811	4856	4128
Wentworth	1814	1397	1631	1285	95	14	5736	5545	5737	2048
Brant	1259	1033	1168	785	185	25	4455	4455	4455	1795
Lincoln	1340	971	1255	984	68	1	3928	4078	4108	2333
Welland	1626	1158	1444	1245	114	.....	4520	4909	5019	2163
Haldimont	1965	1560	1345	1083	171	5	6229	5683	5670	1917
North	2300	1915	2028	1516	154	5	6212	5458	5536	1684
Oxford	2872	2089	1399	2584	258	3	8319	8056	8536	2829
Waterloo	2985	1616	2032	919	257	97	7158	7862	7896	4934
Wellington	4392	3032	3269	1835	254	4	11648	11569	11736	4689
Dufferin	1888	1257	1235	728	15	.....	4285	4541	4678	2587
Grey	5401	4078	4772	2690	156	10	17134	15202	15074	10698
Perth	2819	2051	2770	892	553	127	8058	8259	8282	2940
Huron	5126	3498	4408	2827	519	32	14701	14533	14877	9846
Brace	6005	3761	3903	1874	130	7	14533	13917	14165	5506
Middlesex	4963	3953	3609	2194	389	23	13669	13975	14250	11759
Elgin	2032	1645	2206	2056	334	7	6603	6553	6783	2140
Kent	3766	2436	2737	1649	225	24	9490	9270	9334	4445
Lambton	4464	2586	2694	1580	218	9	10177	10441	10361	7664
Essex	4640	2020	1679	933	187	2	8560	8574	8978	3945
Districts	2785	1887	1391	542	33	.....	5529	5359	5093	1812
Total	123667	83134	89399	55404	6615	478	312507	310861	315186	145266
CITIES.										
Belleville	1024	488	526	263	14	.....	1934	2300	2018	1669
Brantford	782	454	772	374	.....	.....	2382	2382	2337	2262
Cochran	727	366	648	415	.....	.....	1942	1899	2015	1556
Hamilton	3553	1613	2055	916	104	16	7987	8055	8106	7207
Kingston	1216	672	841	560	240	120	3303	3293	3309	2811
London	1681	1108	1389	564	51	.....	4310	3208	4523	4080
Ottawa	1753	1367	1550	558	402	19	4598	5014	4719	3903
St. Catharines	810	480	569	439	87	4	2298	2298	2398	1722
St. Thomas	1068	523	350	347	.....	.....	2282	2297	2297	2297
Toronto	7466	4253	3742	1940	849	158	17944	17992	18094	16359
Total	20080	11333	12451	6376	1747	317	48980	48738	49816	44066

Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

Geography.	Music.	Grammar and Composition.	History.	Object Lessons.	Temperance and Hygiene.	Domestic Economy (for Girls).	Drill (with Calisthenics for Girls).	Algebra.	Geometry.	Elementary Physics.	Agriculture.
2657	606	2205	1153	2588	67		160	67	55		
2366	124	2036	629	343		51	194	51	46	11	
3195	190	2637	873	1084	131		229	46	48		
2779	925	2726	1024	2654	151	45	950	45		41	
3409	828	3180	1144	1471	212		442	252	189	5	4
2859	299	2291	1020	959	182			64	61		
3939	297	2900	1462	709	68		165	102	90	18	
3258	925	2682	1145	1776	182		254	99	102		
4136	683	3452	1282	1449	109	75	424	64	46		
3958	1184	2456	1110	1552	274	195	421	52	94		14
3116	575	2511	931	1252	329	2	545	58	56	26	
3132	431	2444	1071	1395	844		547	109	108	15	
5515	2870	4111	1163	3184	1004	20	2066	105	92	4	
5137	900	3515	1661	2519	407	29	538	120	102	3	
1615	781	1063	1068	2813	257		1348	186	147	7	
3851	357	2760	687	420			332	11	10		
630	248	374	172	145			23	3	3	1	
5922	2725	3877	1500	1584	262	50	559	127	155	10	
5686	2797	4844	2146	2926	1089	36	1898	185	168	2	39
7837	5611	7345	2848	4956	2088	217	2492	241	375	66	9
3488	1128	2432	1511	586	558	128	1274	44	31	1	1
8703	3385	6818	2679	3845	2882	155	1600	204	167	7	55
2623	1298	1836	790	3425	399	58	895	44	49		
3549	1958	3041	1394	1652	476	43	1127	94	219	53	1
4455	1588	2153	2092	958	331		347	169	158	23	26
2846	737	2390	894	1065	918	9	347	69	45		
3161	1635	2732	1166	1822	687	5	1368	96	95		20
3768	805	2157	1387	1251	207		1556	113	162	10	
4119	918	2693	1140	637	322		289	93	89	11	42
5360	1823	4417	2371	3194	761	8	1702	265	320	21	1
4534	4724	3513	1742	3815	2146	110	789	217	254	62	
7399	2759	5634	3790	2559	945	50	1501	296	383	24	
2790	1195	2321	1094	2198	1270	34	1133	48	86		55
9781	4320	7960	3292	5279	1351	40	2218	296	436	14	60
5188	1812	1441	2510	2490	1225		861	498	545	2	
11183	6435	8203	4929	7438	5868	16	4156	651	766	17	83
9025	3687	6534	2881	5882	1837	144	2509	178	210	66	51
9072	5257	8044	2656	7400	4291	33	4044	327	331	21	1
4503	1159	3561	1909	2503	398		194	186	245	4	2
6151	2683	4767	1894	3575	1603	67	1804	234	331	30	
7353	4367	6169	2618	6068	2781		2825	233	217	11	74
5164	1194	3017	1569	4001	1732	19	1431	78	120	15	55
3219	1752	2496	915	1497	614	181	768	41	82		
202631	79974	153738	71312	108919	41258		48435	6461	7288	601	593
1383	1505	784	377	339		70	1594	13	13		
2217	2382	1128	571	1413	1524	57	2138	160	91		
1386	920	1175	534	910	69		1681		48		
4751	5539	2973	2137	5837		324	4107	76	76		
2451	2527	2031	893	2140	213	1782	1898	256	256	78	
3174	4706	2193	1342	1322	1137	228	2438	418	539		
2687	4427	2780	1232	2255		299	706	282	432		28
1573	2163	1131	683	1069	405	1735	2078	26	66		
2160	624	847	386	1591			282				
16269	17434	13530	4636	12960	7000	4643	17758	1519	1853		
38051	42227	28572	12791	29836	10348	9138	34680	2750	3374	78	28

III.—TABLE C.—The

NUMBER OF PUPILS IN THE

TOWNS.	READING.						Spelling.	Writing.	Arithmetic.	Drawing.
	1st Class.	2nd Class.	3rd Class.	4th Class.	5th Class.	6th Class.				
Albion	264	252	151	139			742	806	806	159
Amherstburg	321	112	128	66	40		589	558	665	345
Barnes	263	256	307	150			898	898	925	517
Berlin	465	151	194	115			854	880	880	829
Bartholomew	101	67	72	19	13	1	257	245	263	199
Barnesville	267	187	187	192			766	679	740	597
Barnesville	379	145	122	118			539	539	764	764
Barnesville	656	387	398	206	6		1653	1653	1653	42
Cantham	816	586	396	327			2074	2099	2104	1801
Clinton	249	130	111	125			547	433	615	125
Cassburg	373	231	240	123	8		911	922	925	644
Callinswood	437	326	234	179			1176	1017	1017	595
Cornwall	668	268	178	136	38		1288	1288	1288	879
Dundas	208	110	108	38	11		505	505	505	393
Dundas	236	122	249	192	19		769	768	768	215
Durham	91	56	72	73			256	256	292	292
Galt	546	172	317	120	86	19	1237	1252	1235	1194
Galt	365	226	229	169			989	989	989	914
Hamilton	173	126	166	50			412	412	393	273
Ingersoll	331	133	338	194			802	996	996	84
Kincaidline	317	162	220	149			848	848	848	269
Lindsay	466	376	330	255	47		1343	1174	1395	661
Leeds	262	160	100	78			600	426	426	426
Leeds East	529	262	226	138			1155	1155	1155	1155
Leeds	191	82	133	99	13	9	327	327	518	283
Mitchell	227	113	152	66			558	558	411	255
Milton	209	77	73	12	10		381	381	381	381
Moss Forest	224	148	168	50	10		600	600	600	600
Napier	305	213	182	149			849	849	849	149
Napier	135	142	110	90			433	463	451	401
Napier	105	55	72	40			242	242	242	69
Napier Falls	190	90	123	97			451	418	421	418
Oakville	185	76	96	49			406	401	401	382
Oakville	313	185	155	93			746	746	746	746
Oakville	327	290	159	128			666	732	904	784
Oakville	461	212	246	99			907	981	991	956
Oakville	344	223	242	177			880	847	867	847
Parkton	224	79	95	76			474	474	474	164
Parkton	300	171	172	134			757	757	757	239
Parkton	300	184	151	106			699	695	646	259
Parkton	130	27	19	14	3		164	164	169	14
Parkton	175	175	150	130			625	603	625	135
Parkton	798	344	434	348	14		1905	1517	1564	1092
Parkton	291	260	260	83	30	10	934	700	934	400
Parkton	202	179	126	140	3		640	630	630	269
Parkton	389	256	223	169	71		1099	1099	1099	71
Parkton	154	168	127	153			546	534	534	504
Parkton	113	123	122	128		15	470	470	470	350
Parkton	93	81	62	33			269	246	248	80
Parkton	410	332	294	227			1213	1263	1263	1012
Parkton	221	128	129	136			614	614	614	614
Parkton	223	140	90	90			543	543	543	30
Parkton	247	83	87	102			417	385	381	372
Parkton	306	205	225	218	16		926	926	826	796
Parkton	631	368	626	259			1800	1779	1880	885
Parkton	321	207	165	146			839	839	839	839
Parkton	218	120	190	128	15		669	548	620	458

Public Schools of Ontario

DIFFERENT BRANCHES OF INSTRUCTION.

Geography.	Music.	Grammar and Composition.	History.	Object Lessons.	Temperance and Hygiene.	Domestic Economy (for Girls).	Drill (with Calisthenics for Girls).	Algebra.	Geometry.	Elementary Physics.	Agriculture.
459		459	227	58			58				
355	631	335	175	345	345	310	522	30	30		
481	62	481	209	503							
443	712	309	259	735							
145		103	49	68	49		68	7	13	13	
443	489	258	64	415							
385	583	240	240	646			764				
936	260	698	286			70		2	2	6	
1691	1431	1657	328	1428	1238	427	768	73	73		29
366	547	300	125	490			615				
685	369	440	246	555			356	8	8		
485	494	485	171	87							
526	446	526	114	1215	76		465	38	38	24	
393	393	333	179	79			341	41	41		
522	506	553	257	224			67				
256	292	145	104	275				17	17	9	
640	720	630	216	787	240		498	29	8		
624	848	624	224	563	132		848				
273	515	273	67	448			147				
628	109	532	260	37	83						
531	353	369	149	666							
855	506	522	385	364	148		909	22	60		
338		258	78	178							
566	382	364	138	370							
283	235	283	156	235				20	20		
331		255	124	331							
173	359	172	22	381	172		381	10	10		
312	376	312	122	381	51		381	10	10	51	
469		382	149								
284	318	222	108	318			168	2	1		
167		112	40	125	147						
401	446	290	112	431	82		371				
205		205	79	284							
433	498	248	248	498			746				
465	654	436	232	51							
655	891	512	299	970	612	23	981				
636	211	586	301	692			360				
250	259	171	76				174	3	3		
534	90	534	150	294							
451	555	412	229	502		106	45		96		
633		36	16					3	5		
364	62	280	195	245			556	2	2		
1472	216	1041	463	521	180	216	453	23	26	26	
643	820	383	162	700				40	40		
408		333	143	321			550		52		
710		454	231		142		261	71	71		
448		377	177	376							
320	200	320	170	200			180	60	25	60	
173	269	152	55	238		86					
907	1012	506	573	846		251	908	1			
370	614	329	114	478			349		69		
400		400	70				200				
331	519	233	132	280			143				
758	752	459	339	536				16	16		
1276	1494	968	398	1210			77				
518	765	839	74	765			839				
444	78	405	195	70	131	92	94	1	1		

III.—TABLE C.—The

NUMBER OF PUPILS IN THE

TOWNS.	READING.								Arithmetic.	Drawing.
	1st Class.	2nd Class.	3rd Class.	4th Class.	5th Class.	6th Class.	Spelling.	Writing.		
Tilstonburg.	175	72	91	70			408	408	408	408
Trenton.....	447	238	89	70			834	834	834	65
Wankarston.	210	139	123	106			578	578	578	578
Waterloo.	171	116	107	79	18	9	500	500	500	143
Welland.	76	68	144	83			365	365	365	40
Whitby.....	212	126	179	183			585	648	585	492
Windsor.....	490	333	279	186	10		1077	1176	1145	1008
Wingham.	165	110	183	90	44		551	551	596	275
Woodstock.	594	284	204	146			1228	1228	1228	1228
Total.	20288	12015	12130	8324	557	54	50385	49417	50784	32763
TOTALS.										
Total Counties, &c.	123667	83134	89390	55404	6615	478	312507	310861	315186	145266
" Cities.	20080	11333	12451	6376	1747	517	48080	48738	49816	44066
" Towns.	20288	12015	12130	8324	557	54	50385	49417	50784	32763
Grand Total, 1883.....	164035	106482	113980	70104	8919	849	411872	409016	415786	222095
" " 1882.....	164810	106229	117352	71740	10357	1024	390920	398404	419557	176434
Increase.		253					20952	10612		45661
Decrease.	775		3372	1636	1438	175			3771	
Percentage of Grand Total as compared with total attendance.	35	23	25	15	2	2	88	88	90	48

Public Schools of Ontario.

DIFFERENT BRANCHES OF INSTRUCTION.

Geography.	Music.	Grammar and Composition.	History.	Object Lessons.	Temperance and Hygiene.	Domestic Economy (for Girls).	Drill (with Calisthenics for Girls).	Algebra.	Geometry.	Elementary Physics.	Agriculture.
408	408	307	112	247	.....	173	64	70	38	9	
466	.....	169	100	423	55	.....	601	.....	.....	.....	.....
439	246	229	50	578	.....	.....	208	.....	.....	.....	.....
253	336	213	106	318	.....	.....	.....	.....	.....	.....	.....
203	132	203	45	217	.....	.....	.....	.....	.....	.....	.....
511	391	531	183	373	248	27	429	.....	.....	.....	.....
871	779	775	298	830	63	96	243	6	6	.....	.....
476	458	321	138	552	551	.....	.....	44	44	.....	.....
412	.....	350	350	594	.....	.....	1228	.....	.....	.....	.....
32715	25082	26639	11883	26947	4745	1937	17416	649	825	198	29
202631	79974	153738	71312	108919	41258	1820	48433	6461	7288	601	593
38051	42227	28572	12791	29836	10348	9138	31680	2750	3374	78	28
32715	25082	26639	11883	26947	4745	1937	17416	649	825	198	29
273397	147283	208949	95986	165702	56351	12895	100531	9860	11487	877	650
280517	158694	209184	102931	175274	33926	10748	103954	11280	11616	2341	2214
7120	11411	235	6945	9572	22425	2147	3423	1420	129	1464	1561
59	32	45	21	36	12	3	22	2	3	33	153

IV.—TABLE D.—The Public

PUBLIC SCHOOL

TOTALS	TOTAL.		ANNUAL			
	Public School Teachers.		Highest Salary paid.	Lowest Salary paid Male Teacher.	Average Salary of Male Teacher.*	
		Male	Female			
Counties, etc.....	5522	2553	2369	\$ 800	\$ 120	\$ 394
Cities.....	687	121	566	1200	275	764
Towns.....	702	155	547	1000	200	603
Grand Total, 1883.....	6911	2829	4082	1200	120	422
do do 1882.....	6877	2602	3775	1100	120	
Increase.....	54		287	100		
Decrease.....		233				

* In making these calculation the salaries of R. S. Separate School

Schools of Ontario.

TEACHERS.

SALARIES		CERTIFICATES							
Average Salary of Female Teachers.*	Number of Teachers who have attended Normal School.	Total Number of Certificates.	Provincial 1st Class.	Provincial 2nd Class.	1st Class Co. Board (old).	2nd Class Co. Board (old).	3rd Class.	Temporary Certificates.	Other Certificates.
\$ 252	1225	5522	73	1522	132	56	3145	566	28
362	364	687	89	341	10	5	80	4	158
277	264	702	49	304	41	10	201	33	64
271	1853	6911	211	2167	183	71	3426	603	250
	1873	6857	246	2163	216	122	3471	409	224
		54						194	26
	20		35	2	33	51	45		

teachers, being members of religious orders, are omitted.

V.—TABLE E.—The Public

TOTALS.	TOTAL.			SCHOOL HOUSES.					TITLE.		SCHOOL	
	Number of School Sections.	Number of Schools Open.	Number of Schools closed or not reported.	Brick.	Stone.	Frame.	Log.	Total.	Freehold.	Rented.	Inspectors.	Trustees.
Counties, etc	4969	4905	64	1584	459	2277	617	4937	4813	124	9243	13165
Cities . . .	144	144		107	19	18		144	140	4	1826	2501
Towns . . .	203	203		129	26	48		203	201	2	1312	1617
Grand Total, 1883 . . .	5316	5252	64	1820	504	2343	617	5284	5154	130	12381	17283
do do 1882 . . .	5255	5203	52	1774	502	2306	645	5227	5097	130	12957	16845
Increase	61	49	12	46	2	37		57	57			438
Decrease							28				576	

Schools of Ontario.

VISITS.		EXAMINATIONS, PRIZES.		LECTURES.			PRAYERS.				MAPS.		AVERAGE DAYS OPEN
Other persons.	Total.	Number of Examinations.	Number of Schools distribut- ing Prizes.	Inspectors.	Other Persons.	Total.	Number of Schools in which Scriptures only are read.	Number of Schools in which prayers only are read.	Number of Schools in which both Scriptures and pray- ers are read.	Number of Schools in which Scriptures and prayers are read by both teachers and pupils.	Number of Schools using maps.	Total number of maps.	Average number of legal teach- ing days open.
40323	62731	5490	1252	303	139	442	318	1759	2474	771	4781	35841	207
3778	8105	166	102	13	3	16		9	130	73	144	1717	204
3480	6409	341	52	24	18	42	16	96	168	62	194	2254	207
47581	77245	6997	1406	340	160	500	334	1864	2772	906	5119	39812	207
48526	78328	7222	1293	393	156	549					4738	39372	206
.....	.....		113		4						381	440	1
945	1083	225		53		49							

Barry									
Bradford	364 20	944 20	271 50	157 70	2100 78	2000 00	2 00		
Collingwood, C. I.	193 00	370 00	368 75	2080 81	9111 40	4675 00	53 75	33 00	

High Schools.

MONEY'S.			No. of PUPILS			Cost per Pupil.				
EXPENDITURE.			ATTENDING.							
Food, Books and Con- tingencies.	Total Expenditure.	Balances.	Boys.	Girls.	Total.	Average Attendance.	Percentage of Average Attendance to Total Attendance.	CHARGES PER TERM.	On Total Attendance.	On Average Attendance.
\$ c.	\$ c.	\$ c.							\$ c.	\$ c.
122 40	1487 40	1147 90	29	13	42	22	52	Free	35 40	67 59
149 68	1591 04		21	26	47	27	57	Free	33 85	58 93
215 27	2040 27	30 25	31	40	71	38	54	Free	28 73	53 68
163 45	1486 51	181 69	28	25	53	30	57	81	28 04	49 57
	1580 77		59	40	99	51	51	Free	15 97	31 00
219 77	1921 75	38 53	14	21	35	25	72	Free	54 91	76 88
146 60	1533 05	536 73	21	40	61	34	56	Res. free, n-r 50c, \$1...	25 13	45 09
85 26	1746 29		49	34	83	51	62	Free	21 04	34 24
173 94	1677 98	13 87	28	37	65	35	55	Res. free, n-r. \$1 per m.	25 82	47 94
400 95	3138 12	320 39	36	64	100	63	63	Res. free, n-r. \$1 per m.	31 38	49 81
199 64	2427 64	93 25	59	50	109	60	55	Free	22 27	40 46
30 94	1430 04	296 96	32	43	75	43	57	Free	19 06	33 25
	2388 84	1636 19	56	43	99	63	64	Free	24 13	37 92
1045 58	8495 58	351 88	39	23	62	29	47	Free	137 01	292 97
579 75	3934 17	52 71	60	103	163	100	61	81	24 13	39 34
	1633 86		27	34	61	30	49	Free	26 78	54 43
262 11	1836 60	93 69	16	34	50	24	48	Free	36 72	76 54
209 71	2480 37	366 28	62	29	91	42	46	Free	27 25	59 05
186 10	2399 54	375 28	36	47	83	46	55	Free	28 92	52 17
232 60	1799 26	417 19	39	34	73	44	60	Free	24 66	40 89
373 43	3285 98	34 05	52	71	123	82	67	Free	26 71	40 07
427 32	1614 77	38 06	25	33	58	35	60	Free	27 84	46 14
1020 55	3513 97	55 20	58	65	123	65	53	Free	28 57	54 07
227 78	1745 59	248 84	35	30	65	29	45	Free	26 86	60 21
19 17	1634 67	1010 43	34	18	52	24	46	Free	31 44	68 12
123 35	1773 35		47	38	85	40	47	Free	20 86	44 35
2672 76	6847 17	52 45	124	59	183	96	71	Res. \$12, non-res. \$14...	37 41	71 32
2387 64	3596 89	253 27	22	15	37	17	46	Free	97 22	211 53
872 68	3772 68	434 06	41	41	82	53	65	Free	46 01	71 19
182 65	1482 63	369 87	13	20	33	25	76	Free	44 94	59 32
334 45	3397 34	65 40	55	87	142	93	65	Res. \$9 per an., n-r \$10.	23 92	36 53
50 00	1481 58	75 27	27	31	58	32	55	Free	25 55	46 31
838 58	6303 18	1015 56	67	76	143	75	53	50c. per mo., town, \$2 Co.	44 08	84 04
673 75	4132 30		61	88	149	75	50	Free	27 73	55 09
82 91	1245 03	121 96	22	18	40	19	49	Free	31 12	65 53
1206 42	2348 70	35 22	24	30	54	24	46	Free	43 50	97 88
352 18	2815 01		57	50	107	60	56	Free	26 31	46 91
172 83	2341 33	223 34	54	15	99	53	54	Free	23 64	44 17
70 70	2702 29	52	50	42	92	58	63	Free	29 37	46 58
406 90	4077 73		91	73	164	91	55	82, 1st form free	24 84	44 81
150 18	1686 18		26	12	38	29	75	83	44 37	58 14
181 11	1895 61	565 15	46	28	74	42	57	83	25 62	45 12
217 74	2023 70	55 66	62	43	105	53	51	82	19 28	38 18
120 43	1633 50	38 37	27	26	53	29	55	82	30 83	56 35
553 86	3816 82	828 78	85	78	163	94	58	82, \$3	23 42	40 59
157 11	1364 35	247 95	18	16	34	15	45	Free	40 12	90 94
695 82	4503 26	448 48	103	84	187	112	60	85 per annum	24 08	40 20
98 78	2100 78		32	19	51	26	51	82	41 18	80 80
4369 65	9111 40		142	63	205	87	42	85 per annum	44 44	104 72

ALL ABOUT THE
MAGAZINE

VII.—TABLE G.—The

HIGH SCHOOLS.	MONEYS.					MONEYS.				
	RECEIPTS.					EXPENDITURE.				
	Legislative Grants for Teachers' salaries.	Municipal Grants.	Fees.	Balances and other sources.	Total Receipts.	Teachers' salaries.	Building, Rent and Repairs.	Maps, Apparatus, Prizes and Librarians.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Alexandria	497 88	1156 00		881 42	2635 30	1350 00		15 00		
Williamstown	503 87	1050 00	14 50	23 40	1591 77	1316 33	81 00	44 03		
Cornwall	741 33	1175 00		154 19	2070 52	1812 50	12 50			
Imperial	511 61	800 00	54 00	202 50	1668 20	1300 00	23 06			
Morrisburg	524 14	1000 00			1580 77	1500 00	80 77			
Harveybury	508 51	1008 51		443 26	1960 28	1427 84	274 14			
Vankleek hill	525 61	1638 68	34 00	441 49	2069 78	1345 80	33 15	7 50		
Kemptville	537 29	1209 00			1746 29	1600 00	43 03	18 00		
Prospect	514 27	1040 23	57 50	79 85	1691 85	1499 82	4 22			
Brookville	702 81	2000 00	64 00	391 70	3458 51	2700 00	37 17			
Farmersville	638 31	1538 31		344 27	2520 89	2150 00	78 00			
Gasport	587 98	813 68		325 34	1727 00	1400 00				
Almonte	581 06	1982 23		1461 24	4025 03	1714 15	674 69			
Carleton Place	523 29	7923 29		400 88	8847 46	1450 00	6000 00			
Perth, C. I.	1357 26	1492 03	548 00	149 59	3086 88	3212 50	117 79	24 13		
Smith's Falls	533 41	1100 45			1633 86	1426 00		207 86		
Arnprior	518 07	1376 20		36 02	1930 29	1558 82	15 67			
Perth, C. I.	713 04	2036 39		96 32	2846 65	1791 08	450 00	59 58		
Rosario	547 51	1177 95		1049 36	2774 82	1483 34	730 10			
Sydenham	614 02	1200 00		402 00	2216 45	1566 66				
Napanee	748 46	2571 16		11	3320 03	2520 10	392 45			
Newburg	529 93	920 20		202 70	1652 83	1129 00	67 45			
Preston	633 37	1633 37		1500 43	3569 17	2300 00	193 42			
Trenton	506 87	976 87		400 00	1994 43	1479 15	38 66			
Highgate	516 61	1108 61		1014 88	2645 10	1585 00	30 50			
Campbellford	540 25	551 17		681 93	1773 35	1650 00				
Cobourg C. I.	1550 15	2306 00	1302 00	1741 47	6899 62	4075 00	90 41	9 00		
Georgetown	501 09	1600 00		1718 50	3850 16	1200 00	9 25			
Bowmanville	778 18	3278 18		150 38	4206 74	2900 00				
Sarnia	497 77	928 23		426 50	1852 50	1300 00				
Port Hope	901 42	1600 00	925 50	75 89	3462 74	2915 84	147 05			
Newcastle	524 34	1032 51			1556 85	1398 33	33 25			
Peterboro, C. I.	1709 80	4871 44	605 50	132 00	7318 74	4764 60	700 00			
Midland	867 99	3264 31			4132 30	3327 95	130 60			
Oakwood	493 11	793 11		80 77	1366 99	1148 04	14 08			
Meinee	508 29	578 29		917 34	2383 92	1142 28				
Shedden	634 25	2180 70			2815 01	2408 33	28 75	25 75		
Port Perry	747 05	1147 00		270 57	2564 67	2168 50				
Port Hope	689 87	1843 87		169 07	2702 81	2631 59				
Thornhill, C. I.	1571 53	2095 20	411 00		4077 73	3429 00	241 83			
Thornhill	582 25	700 00	303 19	100 74	1686 18	1533 00	3 00			
Newmarket	549 41	700 00	371 25	840 10	2460 76	1700 00	14 50			
Georgetown Hill	565 00	1080 00	367 70	65 00	2079 36	1722 00	62 86	20 43		
Thornhill	568 70	775 00	229 00	99 17	1672 87	1406 00	113 07			
Georgetown	858 37	3050 00	592 00	174 60	4675 57	3210 04	22 92	30 00		
Stouffville	492 71	608 24		151 35	1612 30	1088 18	119 06			
Barrie, C. I.	1800 87	2586 87	528 00		4915 74	3807 44				
Bradford	534 29	934 29	274 50	357 70	2100 78	2000 00	2 00			
Georgetown, C. I.	1935 92	4725 00	358 75	3080 81	9111 40	4675 00	33 75	33 00		

High Schools.

MONEYS.			No. of Pupils Attending.			Cost per Pupil.				
EXPENDITURE.										
Paid, Books and Con- tingencies.	Total Expenditure.	Balances.	Boys.	Girls.	Total.	Average Attendance.	Percentage of Average Attendance to Total Attendance.	CHARGES PER TERM.	On Total Attendance.	On Average Attendance.
£ s. d.	£ s. d.	£ s. d.							£ s. d.	£ s. d.
122 40	1487 40	1147 90	29	13	42	22	52	Free	35 40	67 59
149 68	1591 04	75	21	26	47	27	57	Free	33 85	58 93
215 27	2040 27	30 25	31	40	71	38	54	Free	28 73	53 68
163 45	1486 51	181 69	28	25	53	30	57	\$1	28 04	49 57
	1580 77		59	40	99	51	51	Free	15 97	31 00
219 77	1921 75	38 53	14	21	35	25	72	Free	54 91	76 88
146 60	1533 05	536 73	21	40	61	34	56	Res. free, n-r 50c, \$1...	25 13	45 09
85 26	1746 29		49	34	83	51	62	Free	21 04	34 24
173 94	1677 98	13 87	28	37	65	35	55	Res. free, n-r. \$1 per m.	25 82	47 94
400 95	3138 12	320 39	36	61	100	63	63	Res. free, n-r. \$1 per m.	31 38	49 81
199 64	2427 64	93 25	59	50	109	60	55	Free	22 27	40 46
30 04	1430 04	296 96	32	43	75	43	57	Free	19 06	33 25
1045 58	8495 58	351 88	56	43	99	63	64	Free	24 13	37 92
579 75	3934 17	52 71	39	23	62	29	47	Free	137 01	292 97
	1633 86		60	103	163	100	61	\$1	24 13	39 34
262 11	1836 60	93 60	27	34	61	30	49	Free	26 78	54 43
209 71	2480 37	366 28	16	34	50	24	48	Free	36 72	76 54
186 10	2399 54	375 28	62	29	91	42	46	Free	27 25	59 05
232 60	1799 26	417 19	36	47	83	16	55	Free	28 92	52 17
373 43	3285 98	34 05	39	34	73	44	60	Free	24 66	40 89
427 32	1614 77	38 06	52	71	123	82	67	Free	26 71	40 07
1020 55	3513 97	55 20	25	33	58	35	60	Free	27 84	46 14
227 78	1745 59	248 84	58	65	123	65	53	Free	28 57	54 07
19 17	1634 67	1010 43	35	30	65	29	45	Free	26 86	60 21
123 35	1773 35		34	18	52	24	46	Free	31 44	68 12
2672 76	6847 17	52 45	47	38	85	40	47	Free	20 86	44 35
2387 64	3596 89	253 27	124	59	183	96	71	Res. \$12, non-res. \$14..	37 41	71 32
872 68	3772 68	434 06	22	15	37	17	46	Free	97 22	211 53
182 63	1482 63	369 87	41	41	82	53	65	Free	46 01	71 19
334 45	3397 34	65 40	13	20	33	25	76	Free	44 94	59 32
50 00	1481 58	75 27	55	87	142	93	65	Res. \$9 per an., n-r \$10.	23 92	36 53
838 58	6303 18	1015 56	27	31	58	32	55	Free	25 55	46 31
673 75	4132 30		67	76	143	75	53	50c. per mo., town, \$2 Co.	44 08	54 04
82 91	1245 03	121 96	61	88	149	75	50	Free	27 73	55 09
1206 42	2348 70	35 22	22	18	40	19	49	Free	31 12	65 53
352 18	2815 01		24	30	54	24	46	Free	43 50	97 88
172 83	2341 33	223 34	57	50	107	60	56	Free	26 31	46 91
70 70	2702 29	52	54	45	99	53	54	Free	23 64	14 17
406 56	4077 73		50	42	92	58	63	Free	29 37	46 58
150 18	1686 18		91	73	164	91	55	\$2, 1st form free	24 84	44 81
181 11	1895 61	565 15	26	12	38	29	75	\$3	14 37	58 14
217 74	2023 70	55 66	46	28	74	42	37	\$3	25 62	45 12
120 43	1633 50	38 37	62	43	105	53	51	\$2	19 28	38 18
553 86	3816 82	828 78	27	26	53	29	55	\$2	30 83	36 35
157 11	1364 35	247 95	85	78	163	94	58	\$2, \$3	23 42	40 59
695 82	4503 26	448 48	18	16	34	15	45	Free	40 12	90 94
98 78	2100 78		103	84	187	112	60	\$5 per annum	24 08	40 20
4369 65	9111 40		32	19	51	26	51	\$2	41 18	80 80
			142	63	205	87	42	\$5 per annum	44 44	104 72

VII.—TABLE G.—The

HIGH SCHOOLS.	MONEYS.					MONEYS.			
	RECEIPTS.					EXPENDITURE.			
	Legislative Grant for Teachers' salaries.	Municipal Grants.	Fees.	Balances and other sources.	Total Receipts.	Teachers' salaries.	Buildings, Rent and Repairs.	Maps, Apparatus, Prizes and Libraries.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	
Orillia	555 44	1855 40	121 75	11 20	2543 79	2157 92	47 45		
Oshawa	534 42	1083 59		373 66	1991 67	1400 00	76 66		
Pembroke	598 82	1789 82		73 69	2462 33	1697 14			
Waterdown	598 19	889 85	335 25	443 68	2266 97	1500 00	28 30	2 60	
Paris	522 54	1722 54		559 44	2804 52	1700 00	297 64	31 32	
Beaconsfield	505 98	756 24		300 93	1563 15	1100 00	7 48		
Grimsby	512 90	1123 60	70 00	14 32	1720 82	1216 66	21 18		
Niagara	497 10	998 50		3 67	1499 27	1350 00	8 09		
Smithville	530 29	840 85		518 82	1889 96	1223 50	64 77	5 00	
Niagara Falls, South	542 23	1042 23		179 74	1764 20	1275 00	39 38		
Thorold	620 79	1620 79		602 85	2844 43	1833 60	70 17	11 00	
Welland	626 98	1625 16		142 66	2394 80	1825 50	21 88		
Cambridge	635 56	1185 56	403 92	388 59	2613 63	2133 32	111 67	54 07	
Cayuga	505 17	1010 17		577 39	2092 73	1345 22	13 88		
Dumfries	530 07	1030 07		727 72	2287 86	1355 66	20 80		
Port Dover	519 67	519 67		278 33	1317 67	1216 67			
Port Rowan	535 58	535 58		736 60	1807 76	1635 61			
Simcoe	802 04	1625 07			2427 11	1550 00	257 70	37 10	
Ingersoll	681 66	2067 00		5 39	2754 05	2186 54	111 38	19 02	
Woodstock	762 48	2062 48	258 75	2315 64	5399 35	2699 80	1714 28	40 80	
Brampton	736 15	1736 15	580 00	759 52	3811 82	2800 00	102 60	26 13	
Georgetown, C. I.	1815 21	3788 11	1509 00	2836 04	9948 36	6052 21	80 24	191 91	
Elora	608 83	596 73		1182 40	2387 96	1275 00	11 43		
Fergus	560 20	560 20		660 60	2151 00	1216 66		38 80	
Harriston	736 14	1636 14	421 51	2525 00	5318 88	2407 83	42 99		
Mount Forest	776 31	1976 31	400 55	256 40	3499 57	2882 25	108 92	30 73	
Orangeville	682 75	1322 53	134 00	235 93	2375 21	1936 67	135 95	4 00	
Owen Sound	882 72	3468 06			4350 78	3482 50	157 36		
Leamington	595 94	1456 19	374 00	140 01	2566 14	1747 04	119 81		
Marquette	561 81	1211 81		168 40	1942 02	1550 00	36 90	5 00	
Stratford	1161 42	3481 42		3602 37	8245 21	3727 00	277 85	124 00	
St. Mary's, C. I.	1172 76	2080 00	602 00	962 21	5416 97	4100 00	25 36	56 05	
Chatham	890 81	2535 51	444 50	444 59	4315 41	3660 00	81 24	31 52	
Goderich	1078 16	2498 46		578 88	4155 50	3300 00	28 16		
Southwold	660 50	1460 50	588 75	279 28	2989 03	2573 75	39 72	70 00	
Kincardine	604 02	1503 27		53 98	2161 27	1719 06	59 80	28 55	
Wellington	925 99	2075 99	432 75	3785 71	7220 44	3512 50	155 43	41 00	
Parry Sound	534 82	1174 82		97 30	1806 94	1440 00	75 00		
St. Catharines	896 80	2396 80	119 00	270 83	4283 43	3514 49	201 46		
Windsor	502 10	1073 35		798 33	2373 78	1270 00	55 91		
Aylmer	529 86	1660 00		561 07	2150 93	1790 66	39 40		
London	569 59	927 76			1437 35	1340 39			
Chatham	922 41	3468 98	261 00	191 49	4846 88	3750 26	389 52	135 67	
St. Catharines	743 42	2251 06		235 04	3219 48	2610 00	56 86		
Windsor	849 19	2181 46		46 20	3076 85	2550 10		50 00	
Elmhurst	745 55	2029 98	80 50		2856 03	2716 58			
Brantford, C. I.*	1981 24	5500 00	2058 00	526 70	19065 94	6977 29	245 27	58 57	
Georgetown	900 13	3693 25	117 75	291 87	4613 00	3500 00	181 72		
Hamilton, C. I.	2379 51	16881 69	1267 70		14468 40	12082 26	918 00		

* The above figures are taken from Report of 1881.

High Schools.

MONEYS.			NO. OF PUPILS ATTENDING.			COST PER PUPIL.				
EXPENDITURE.										
Fuel, Books and Con- tingencies.	Total Expenditure.	Balances.	Boys.	Girls.	Total.	Average Attendance.	Percentage of Average Attendance to Total Attendance.	CHARGES PER TERM.	On Total Attendance.	On Average Attendance.
\$ c.	\$ c.	\$ c.							\$ c.	\$ c.
315 80	2521 17	22 62	48	37	85	41	48	25 cents per month..	29 66	61 49
213 01	1689 67	302 00	23	29	52	26	50	Free	32 50	65 00
525 48	2222 62	239 71	29	46	75	36	48	Free	29 64	61 75
151 40	1682 30	584 67	68	45	113	60	52	\$2	14 88	28 03
83 14	2112 10	692 42	25	61	86	26	30	Free	24 56	81 23
455 67	1563 15		12	19	31	15	49	Free	50 42	104 20
410 69	1648 53	72 29	18	20	38	21	56	Free	43 37	78 48
124 66	1482 75	16 52	17	20	37	20	54	Free	40 08	74 10
82 17	1375 44	514 52	27	24	51	23	45	Free	26 96	59 78
373 26	1687 64	76 56	28	43	71	42	59	Free	23 76	40 19
194 80	2109 57	734 86	25	55	80	46	58	Free	26 37	45 87
415 26	2262 64	132 16	47	54	101	58	58	Free	22 40	39 02
268 98	2568 04	45 59	52	49	101	58	58	\$2, \$2.50	25 42	44 28
119 00	1478 20	614 53	22	23	45	19	42	Free	32 84	77 79
454 86	1831 32	456 54	19	39	58	27	47	Free	31 57	67 80
101 00	1317 67		31	28	59	30	50	Free	22 34	43 90
172 15	1807 76		22	30	52	26	50	Free	34 77	69 50
582 31	2427 11		74	60	114	52	46	\$2 for non-passed	21 29	46 67
350 84	2667 78	86 27	73	75	148	71	48	Free	18 03	37 58
461 06	5155 94	243 41	57	59	116	58	50	\$1	44 45	88 88
342 25	3271 07	549 75	67	27	94	47	50	\$3	34 79	69 59
3611 73	9936 09	12 27	95	40	135	71	53	\$3, \$4	73 60	139 94
190 76	1477 19	910 77	29	33	62	39	63	Free	23 82	37 87
166 92	1422 38	728 62	44	40	84	47	56	Free	16 93	30 25
2726 84	5177 66	141 22	52	47	99	55	56	\$2, \$2.50	52 30	94 14
323 04	3344 94	154 63	46	40	86	69	80	\$1.50, \$2	38 89	48 48
108 64	2185 26	189 95	77	65	142	75	53	\$2, \$3	15 39	29 13
710 92	4350 78		63	108	171	86	50	Free	25 44	50 59
630 59	2497 44	68 70	46	41	87	42	48	25c, 50c, and \$1 per mo. ..	28 70	59 47
247 15	1839 05	102 97	46	59	105	49	47	Free	17 51	37 53
1213 22	5342 07	2903 14	97	115	212	120	57	Free	25 19	44 51
1210 48	5391 89	25 08	106	120	226	135	60	Res. free, n-r. \$10 per a. ..	23 86	39 93
596 28	4309 04	6 37	59	41	100	59	59	\$7 and \$10 per annum..	43 09	73 03
490 85	3819 01	336 49	69	72	141	80	57	Free	27 08	47 74
272 87	2956 34	32 69	59	48	107	55	51	\$8, \$12	27 62	53 74
226 31	2054 72	106 55	59	34	93	44	47	Free	22 08	46 70
3511 51	7220 44		68	67	135	72	53	\$2, \$3	53 48	100 28
116 72	1631 72	175 22	29	31	60	35	58	Free	27 20	46 60
298 51	3854 46	428 97	113	110	223	121	54	Free	17 29	31 86
898 46	2224 37	149 41	33	29	62	28	45	Free	35 87	79 43
320 87	2150 93		35	64	99	54	55	Free	21 73	39 83
96 96	1437 35		20	21	41	26	62	Free	35 05	55 12
571 43	4846 88		68	95	163	98	48	Free	29 73	49 46
537 62	3219 48		58	103	161	96	60	Free	20 00	33 53
476 75	3076 85		47	73	120	69	58	Free	25 63	44 59
139 45	2856 03		84	92	176	95	54	\$4, \$6	16 23	30 06
929 81	8210 94	1855 00	156	127	283	117	63	\$10, \$16 non-res.	29 01	40 74
661 72	4193 44	419 56	93	97	190	101	53	Res. free, n-r \$1 per mo. ..	22 07	41 51
2228 20	14468 40		290	287	577	297	51	20c, 50c, n-r \$16 per an. ..	25 08	48 72

VII. TABLE G. The

HIGH SCHOOLS.	MONEYS.					MONEYS.			
	RECEIPTS.					EXPENDITURE.			
	Legislative Grant for Teachers' salaries.	Municipal Grants.	Fees.	Salaries and other sources.	Total Receipts.	Teachers' salaries.	Building, Rent and Refunds.	Books, Apparatus, Prizes and Libraries.	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Kamilton, C. I.	1428 12	1600 00	1343 85	1013 17	5385 14	3851 52	192 16	34 27	
London, C. I. . .	1777 32	5102 10	643 50	3517 00	11039 92	7130 46	222 77		
Ottawa, C. I. . .	1915 15	3429 00	2924 40	146 18	10115 69	6570 82	1873 41	243 27	
St. Catharines, C. I. . .	2102 40	3048 92	306 25	83 92	6540 49	7471 45	102 48	97 50	
St. Thomas, C. I.	1785 16	5162 52		19 00	6966 68	5575 00	205 86	4 00	
Toronto C. I.	2242 83	5300 00	6756 00	2 84	14301 67	11800 00	441 96	171 32	
Total, 1883.	84989 75	208160 63	30066 57	55671 57	378888 52	266316 81	20012 49	2135 48	
Total, 1882.	84304 35	196438 66	29269 64	63137 95	373150 60	253863 83	19361 74	1821 53	
Increase.	685 40	11721 97	796 93		5737 92	12452 98	650 75	313 95	
Decrease.				7466 58					

NOTE.—The number of pupils attending St. Thomas, C. I., in 1882, should have been: Total, 310; boys,

High Schools.

MONEYS.			No. of PUPILS			ATTENDANCE.			COST PER PUPIL.			
EXPENDITURE.												
Fuel, Books and Con- tingencies.	Total Expenditure.	Balance.	Boys.	Girls.	Total.	Average Attendance.	Percentage of Average Attendance to Total Attendance.	CHARGES PER TERM.	On Total Attendance.	On Average Attendance.		
£ c.	£ c.	£ c.							£ c.	£ c.		
976 75	5052 70	332 44	103	58	161	75	47	\$5.25	31 38	67 37		
710 76	8063 99	2975 93	154	136	290	145	50	Ratepayers free, n-r \$3.	27 81	55 61		
1374 91	10062 41	53 28	149	74	223	128	57	Res. \$15 per an, n-r \$26.	45 12	78 61		
1459 06	9130 49		164	144	308	156	51	\$3, \$5 n-r, free to res. . .	29 65	58 53		
1181 82	6966 68		161	169	330	174	53	Free	21 11	40 04		
1602 41	14015 69	285 98	278	185	463	256	55	\$4, \$4.38, \$5.	30 27	54 75		
						C.I.	54					
60481 67	348946 45	29942 07	6056	5787	11843	6454	H.S.	55	{ 67 free }	C. I.	32 21	59 89
						Av.	55		{ 37 fee }	H. S.	28 03	51 10
										Av.	29 47	54 07
						C.I.	53					
68673 52	343720 62	20429 98	6017	6331	12348	6380	H.S.	53	{ 67 free }	C. I.	29 30	55 33
						Av.	53		{ 37 fee }	H. S.	26 61	50 55
										Av.	27 56	52 24
						C.I.	1			C. I.	2 91	4 56
						H.S.	2			H. S.	1 42	55
						Av.	2					
8191 85			544	505						Av.	1 91	1 83

160 ; girls, 150, instead of 435, 239, 196, respectively, and the cost \$18.81, not \$13.41.

VIII.—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

HIGH SCHOOLS.	SUBJECTS.									Calisthenics (Girls).
	English Grammar.	English Literature.	Composition.	Reading.	Dictation.	History.	Geography.	Arithmetic.	Book-keeping.	
Alexandria	42	29	42	42	42	42	42	42		
Williamstown	47	37	47	47	47	47	47	47	5	
Corrville	71	71	71	71	71	71	71	71	12	
Deepers	53	53	53	25	53	53	53	53		
Morrisburg	99	99	99	99	99	99	99	99	50	
Hawkebury	35	35	35	35	35	35	35	35	35	
Vancouver Hall	61	61	61	61	61	61	61	61		37
Kentville	83	83	83	83	83	83	83	83	20	
Prescott	65	65	65	64	65	62	65	65	26	
Barnesville	100	100	100	30	100	100	100	100	25	
Hamersville	109	109	109	109	109	109	109	109	109	50
Cambridge	75	74	74	75	74	74	74	75	23	
Alm, etc.	99	99	99	99	99	99	99	99	50	
Carleton Place	62	62	62	62	62	58	58	62	30	6
Perth, C. I.	163	163	163	163	163	163	163	163	35	
Smiths Falls	61	61	61	61	61	61	61	61	37	28
Amherst	50	50	50	50	50	50	50	50	16	
Pembroke	91	56	91	60	91	70	91	91	35	
Kentown	83	83	83	83	83	83	83	83	67	47
Sydenham	73	73	73	73	73	73	73	73	3	
Naperville	123	123	123	123	123	123	123	123		
Newburg	58	58	58	58	58	58	58	58	5	
Pictou	123	123	123	123	123	123	123	123	20	
Trenton	65	65	65	65	65	65	65	65	15	
Brampton	50	50	49	36	49	50	50	50	33	
Campbellford	85	85	85	85	85	85	85	85	12	
Collingwood, C. I.	180	96	180	100	100	150	140	175	64	
Concord	37	37	37	37	20	35	37	37	15	
Bowmanville	82	82	82	82	82	82	82	82	40	
Newcastle	33	24	33	7	33	33	33	33	6	
Port Hope	142	142	142	126	126	142	142	142	25	87
Norwood	58	58	58	58	58	58	58	58	7	
Peterborough, C. I.	143	143	143	143	127	126	126	140	39	
Lindsay	149	149	149	149	149	149	149	149	80	
Orkney	40	40	40	40	40	40	40	40	27	12
Oranienburg	55	55	55	48	55	55	55	55	35	
Oshawa	107	107	107	107	107	107	107	107	107	
Port Perry	99	99	99	99	99	99	99	99	35	45
Uxbridge	102	102	102	46	46	102	102	102	52	
Whitby, C. I.	164	135	164	93	164	164	164	164	93	
Markham	38	16	38	38	38	38	36	38		
Newmarket	74	74	74	35	72	74	74	74	27	
Richmond Hill	105	105	105	105	105	105	105	105	42	43
Windsor	53	53	53	53	53	53	53	53	7	
Brampton	163	163	163	163	163	150	150	163	20	78
Stratford	34	34	34	34	34	34	34	34	3	
Barrie, C. I.	187	187	187	80	175	187	187	187	84	
Brantford	51	51	51	51	51	51	51	51	8	
Collingwood, C. I.	205	205	205	205	205	205	205	205		

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.													
Drill (Boys).	Algebra.	Euclid.	Natural Philosophy.	Chemistry.	Botany.	Latin.	Greek.	French.	German.	Music.	Drawing.	Physiology.	Hygiene.
	34	40	4	5		14	5	13		13			
	40	47		23	14	21	6	17		26			
	71	71	5	9		27	8	45	18		35		
59	53	40	8	8	.....	16	6	22					
	99	97	22	26	10	35	1	40		50	50		
	35	7				4		6			35		
16	61	61	.....	8	15	10		34			54		
26	83	83	35	35		40	3	12					
	55	53	4	10		15	.....	40					
	99	90	15	19	.....	35	8	60			70		
109	109	100		10	10	65	5	35	.....	40			
30	72	62	4	14		25	4	42	1	44			
	86	83	5	5		53	4	47			36		
15	40	28	.....	3	3	13	2	15		30	40		
	163	162	2	13	37	40	8	97	13	23	57		
27	56	61				25	1	36	6	61		21	
	49	35	2	21	14	12		30					
	25	35	3	17	14	50	3	25			14		
36	31	70	8	8	8	16	5	31	3	4			
	73	73	23	23		21	5	19					
	123	123	30	30		30	5	50	1				
	50	50	1	23	23	5		6					
	123	120	10	10	.....	41	9	73					
	49	50		15	15	11	7	15	2				
	46	35	5	10		26	9	21					
40	80	80	5	67	32	20	8	24					
	165	120	65	65		115	85	49	6		50		
	37	34	3	3	.....	13	2	10					
	50	50	10	6	6	24	1	40	8	1	50		
	33	30	1			9	5	20		4			
	142	142		52	52	37	6	120	14		126		
27	21	29	3	29	20	1		22					
	128	110	15	26		35	4	64	5				
	130	145		45	50	43	9	56	2	6	2		
15	18	20		2	2	7		16					
	53	49	3	24	11	8		21			20		
37	105	82	4			23	6	58	14	.....	54	23	23
54	99	99	45	45	.....	32	10	36		80	80		
	102	75	15	15	2	53	15	56	13				
	148	134	12	17		96	32	88	8	17	24		
	38	38	10	27		22	4	12					
	74	74	4	6	.....	40	2	33	5	5	30		
62	86	91	4	17	13	55	13	51	7	51	37		
	51	50	6	6		39	8	17					
163	140	140	7	20	.....	61	11	72	6	.....	40		
	18	26	4	9	12	9	2	13		1			
	107	130	9	12	48	103	19	114	11				
32	32	51	8	8	.....	29	.....	33	9	19	22		51
	192	192	50	63	53	51	15	59	6				

VIII.—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

SUBJECTS

HIGH SCHOOLS.	SUBJECTS									
	English Grammar.	English Literature.	Composition.	Psychics.	Debate.	History.	Geography.	Arithmetic.	Book-keeping.	Calisthenics/Gymnastics.
Orillia	85	85	85	40	85	83	85	85	15	
Oakville	52	36	52	52	52	49	49	52	21	
Dundas	75	75	75	75	75	75	75	75	30	
Waterdown	113	113	113	113	113	104	104	113	13	
Park	86	86	86	86	86	86	86	86	61	61
Brampton	31	31	31	30	30	31	31	30	30	31
Grimsby	30	30	30	30	30	38	38	38	30	
Niagara	36	30	37	37	37	32	32	37	10	30
St. Catharines	51	51	51	51	51	51	51	51	22	
Niagara Falls, South	71	71	71	71	71	71	71	71	42	
Toronto	80	80	80	25	80	80	80	80	10	
Windsor	101	101	101	101	101	96	96	101	37	
Chatham	101	101	101	101	101	101	101	101	20	
Cambridge	45	19	14	45	45	45	45	45	14	
Dundasville	47	47	47	47	47	40	40	47	12	
Port Dover	59	59	59	57	57	58	58	59	56	
Port Rowan	51	51	51	51	51	51	51	51	6	
Simcoe	114	70	114	114	114	114	114	114	29	
Langton	148	148	148	120	146	148	148	147	30	75
Windsor	116	116	116	57	116	116	116	116	57	59
Berlin	92	92	92	90	90	69	71	92	24	
Galt, C. I.	135	115	135	97	7	115	135	135	90	
Elgin	62	62	62	62	62	62	62	62	20	
Frontenac	83	75	83	80	83	83	83	83	49	
Hastings	99	99	99	40	99	99	99	99	21	12
Mount Forest	86	86	86	85	85	86	86	86	14	40
Orillia	142	142	142	142	142	142	142	142	30	
Owen Sound	171	171	102	171	171	171	171	171	68	
Leamington	87	87	87	87	87	87	87	87	21	41
Midland	105	105	105	85	105	105	105	105	65	
St. Catharines	212	212	212	212	212	212	212	212	160	
St. Marys, C. I.	226	226	226	226	226	226	226	226	140	226
Chatham	100	100	100	90	100	100	100	100	40	41
Georgetown	141	141	141	60	141	141	137	141	22	
Simcoe	107	107	107	107	107	107	107	107	27	
Kitchener	93	93	93	93	93	93	93	93	25	
Windsor	135	135	135	135	135	135	135	135	52	
Perth	60	60	60	60	60	60	60	60	60	
St. Catharines	223	223	223	190	180	223	223	223	72	110
Windsor	60	60	62	37	61	60	60	61	21	
Avon	99	99	99	99	99	99	99	99	29	
Victoria	41	41	40	37	41	41	41	41	13	
Chatham	163	163	163	70	163	163	163	163	46	95
Simcoe	161	120	161	161	161	161	161	161	124	
Windsor	120	80	120	120	120	120	120	120	24	
Belleville	176	139	176	134	134	176	176	176	50	
Brantford, C. I.	286	286	286	286	286	286	286	286	87	
Georgetown	190	190	190	190	190	190	190	190	45	40
Hamilton, C. I.	572	572	572	460	460	460	460	518	276	

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.															
Drill (Boys).	Algebra.	Euclid.	Natural Philosophy.	Chemistry.	Botany.	Latin.	Greek.	French.	German.	Music.	Drawing.	Physiology.	Hygiene.	Agriculture.	Household Arts.
40	79	78	13	28	1	35	6	34	4		13				
	48	48	13	14		4	2	21			14				
	26	38	3	3	19	22	3	33							
	97	113	7	31	34	35	4	32							
25	42	42	3	5		69	2	34							
31	26	26	3	3		5	3	19	6		31	30	30		
	30	38	11			18	1	20	3		30				
17	21	12				4		22		20	12				18
	31	31	5	15	7	10	1	21		8	8				
28	50	67		6	4	17	1	34		1	36				
	70	70	10	10		25	5	55			55				
	101	88	5		5	77	7	12	6		3				
	73	73	8	17	25	53	9	48							
	16	30				14	4	19		10					
	40	40	3	1		11	4	11							
	56	58	17	8		30	5	28	4	2					
10	28	30		30	30	10	2	20		8	11				
	111	60	11	17		36	4	55		7					
60	142	135	25	25		51	10	56	2	1	20				
57	116	116	10	10	20	31	6	49			116				
65	36	59	1	30	34	25		24	37	1	25				
	115	115	6	45	45	75	25	48	40		15				
	45	45	4	14		18	1	22	16						
	48	40	9	10		26	2	37							
30	98	97	19	23	11	32	7	48	17	3	99				
32	37	86	14	14	20	22	1	15	5	3	9				
	107	107	34	30	25	34	6	35	26						
	170	170	53	53	3	62	6	54	11	19	100				
46	87	11	1	1		23	4	32	14						
	62	42	10	13	8	14		15	60						
	154	154	8	10		70	8	105	45						
226	226	226	40	40	120	95	20	100	12		200				
59	100	100	35	35		40	10	40	6	35	2	35	35		
	133	130	30	30		45	7	70	14	30	45				
107	107	107	23	23	5	30	5	40	4	35	35				
	93	93	20	20		20	4	30							
46	135	134	29	37	7	35	5	23	53	34	26				
	50	40	8	10	6	12	2	14							
113	163	183	1	63	98	92	14	105	22	1					
33	58	58	8	16	14	15		13		6	23				
33	96	96	14	33	33	22	3	12			12				
	37	25	2	2		16	1	15	6						
68	68	147	2	37	48	49	22	62	17		161	52			
	130	148		28	39	31		104		126					
	120	120	1	1	38	32	1	73	2	15	38				
50	158	130	3	31	42	50	22	71	16	1	132				
	286	286	50	57		135	50	90	30		60				
30	185	150	18	18		56	8	46	18						
300	508	410	34	101	12	244	65	322	62	254	254	12			

VIII—TABLE H.—The

NUMBER OF PUPILS IN THE VARIOUS

HIGH SCHOOLS.	SUBJECTS.									
	English Grammar.	English Literature.	Composition.	Reading.	Dictation.	History.	Geography.	Arithmetic.	Book-keeping.	Calisthenics (Girls).
Kingston, C. I.	161	161	161	80	120	161	110	161	80	..
London, C. I.	290	290	290	75	290	290	290	290	225	128
Ottawa, C. I.	223	223	209	132	209	223	209	223	132	74
St. Catharines, C. I.	308	308	308	266	236	308	308	308	158	87
St. Thomas, C. I.	330	209	330	330	330	330	330	330	211	169
Toronto, C. I.	463	463	463	388	463	463	463	463	356	185
Total, 1883	11815	11259	11707	9939	11236	11551	11518	11767	4849	1927
" 1882 .....	..	..	12189	..	..	12220	12106	12261	5642	.....
Increase .....	..	..	..	..	..	..	..	..	..	.....
Decrease .....	..	..	482	..	..	669	588	494	793	.....
Percentage of Total Attendance	100	96	100	84	96	99	99	100	41	17

High Schools.

BRANCHES OF INSTRUCTION.

SUBJECTS.															
Drill (Boys).	Algebra.	Euclid.	Natural Philosophy.	Chemistry.	Botany.	Latin.	Greek.	French.	German.	Music.	Drawing.	Physiology.	Hygiene.	Agriculture.	Household Arts.
135	161	161	29	40	18	140	12	148	40		48	33	33		
149	290	290	31	33		108	23	153	21		255	60			
76	223	223	15	61	16	148	38	177	40		132				
161	253	281	48	48	14	96	34	143	25	86	204				
161	317	287	75	75	127	138	15	119	43	182	153	104	104		
278	463	460		266	134	257	42	374	76		235	66	66		
3073	10296	10071	1298	2450	1526	4439	903	5318	961	1360	3538	415	363		18
...	11742	11148	1880	.....	...	4591	815	5363	962	.....	3441	637			
.....							88				97				
....	1446	1077	582	....	....	152	.....	45	1	.....		222			
27	87	85	11	21	13	38	9	45	9	12	30	4	3		

IX.—TABLE I.—T

MISCELLANEOUS

HIGH SCHOOLS.		Brick, Stone, or Frame.	Freehold, Leased or Rented.	Size of Playground.	Schools under United Boards.	Number of Maps in School.	Number of Globes in School.	Schools in which the Bible is read.	Schools in which there are daily prayers.	Number of pupils who matriculated.
				acres.						
Alexandria	B.	F.				12				
Wilmaustown	B.	F.			1	18	1			1
Cornwall	B.	F.		1 1/2		26	1			1
Fredericton	S.	F.		1		15	2	1		1
Morrisburg	B.	F.		1	1	12	1	1		1
Hawkesbury	B.	F.		1	1	15	2			1
Vankleekhill	B.	F.		1		15	1			1
Kennettville	B.	F.		1 1/2	1	15	3			1
Prescott	S.	F.			1	22	3	1		1
Rockville	S.	F.				25	1	1		1
Farmersville	S.	F.		2		12	2	1		1
Gadagaspie	S.	F.		1 1/2	1	30	1			1
Almonte	S.	R.		1	1	12	1			
Carleton Place	S.	F.		2			1			1
Perth C. I.	B.	F.		5 1/2	1	11		1		1
Smith's Falls	S.	F.		1 1/2		18	2	1		1
Ampara	B.	F.		4	1	11	1			
Penbrooke	B.	F.		1 1/2	1	3				1
Renton	B.	F.		3	1	5				
Sydenham	S.	F.		1 1/2		16	1	1		
Napacore	B.	F.		7 1/2	1	36	2			1
Newburg	S.	F.		1 1/2	1	8	1	1		1
Pictou	B.	F.		1 1/2		12				1
Trenton	B.	F.		1	1	11	1	1		1
Brighton	B.	F.		1 1/2	1	18	1	1		1
Campbellford	S.	F.		1	1	12	1			
Colborne C. I.	B.	F.		1		36	2	1		1
Colborne	B.	F.		1	1			1		1
Brownsville	B.	F.		1 1/2		12	2			
Newcastle	B.	F.			1	12	1			1
Port Hope	B.	F.		1 1/2		20	2	1		1
Newwood	B.	F.		1	1	12	1	1		1
Peterboro' C. I.	B.	R.		2	1	30	2			
Lindsay	B.	F.		6	1	20	2			1
Orkney	B.	F.		1 1/2		6	1	1		1
Quince	F.	F.			1	30		1		1
Oshawa	B.	F.		3 1/2	1	12	2	1		1
Port Perry	B.	F.		1 1/2	1	20	2			1
Uxbridge	B.	F.		2	1	20	3			1
Whitby C. I.	B.	F.		2 1/2	1	66	2			1
Moncton	B.	F.		1		21	2			
New Brunswick	B.	F.		2 1/2		25	1			1
Richmond Hill	B.	R.			1	17	1	1		1
Weston	B.	F.		1 1/2		20	1	1		1
Brantford	B.	F.		5 1/2		30	1			1
Stoney Creek	B.	F.		1		9	2			1
Barrie C. I.	B.	F.		3		15	1			
Brantford	B.	F.		2		10	2			

High Schools.

INFORMATION.

Number of pupils who entered in the current year.	Number of pupils who became occupied with agriculture.	Number of pupils who joined any learned profession.	Number of pupils who left for other occupations.	Number of pupils in Preparatory Department.	Number of pupils in Upper School.	Number of Masters and Teachers.	Salary of Head Master.	HEAD MASTERS AND THEIR UNIVERSITIES.
4	10	1	6	4	2	850	W. D. Johnston, B.A., <i>Toronto</i> .	
2	2	3	2	13	2	900	Thomas Scales, B.A., <i>Queens</i> .	
1	1	7	...	14	2	1150	James Smith, M.A., <i>Aberdeen</i> .	
6	10	...	...	8	2	800	W. C. Whitney, M.A., <i>Victoria</i> .
2	1	4	2	30	2	900	J. S. Jamieson, M.A., <i>Victoria</i> .	
2	4	...	3	7	2	900	John A. Houston, B.A., <i>Trinity</i> .	
...	...	2	...	8	2	800	A. H. Watson, B.A., <i>Toronto</i> .	
2	4	8	...	18	2	1000	James A. Carman, B.A., <i>Albert</i> .	
3	1	1	11	7	2	1000	M. McPherson, M.A., <i>Victoria</i> .	
10	1	2	8	4	3	1200	Rev. C. L. Worrell, M.A., <i>Trinity</i> .	
4	6	20	10	26	3	900	O. J. Jolliffe, M.A., <i>Victoria</i> .	
7	1	4	9	13	2	800	W. K. T. Smellie, B.A., <i>Toronto</i> .	
1	4	3	13	20	3	1000	P. C. McGregor, B.A., <i>Queens</i> .	
2	5	4	7	3	2	850	Stephen Burwash, B.A., <i>Victoria</i> .	
8	11	2	27	26	4	1200	William Rothwell, B.A., <i>Queens</i> .	
2	2	...	17	1	2	900	J. A. Clarke, M.A., <i>Victoria</i> .	
3	4	4	3	2	2	1000	R. Dawson, B.A., <i>Dublin</i> .	
2	2	5	21	11	3	1000	E. Odium, M.A., <i>Victoria</i> .	
...	...	...	...	3	2	800	C. McDowell, B.A., <i>Queens</i> .
3	2	...	21	21	2	1200	J. E. Burgess, M.A., <i>Queens</i> .	
10	...	3	...	27	3	1200	Cortez Fessenden, B.A., <i>Toronto</i> .	
3	12	...	8	9	2	720	David Hicks, B.A., <i>Toronto</i> .	
12	12	...	...	22	3	1200	Robert Dobson, B.A., <i>Victoria</i> .
...	...	5	13	5	2	1000	B. N. Davis, B.A., <i>Queens</i> .	
1	2	5	1	7	2	900	George B. Ward, M.A., <i>McGill</i> .	
...	...	...	30	10	2	1050	A. G. Knight, B.A., <i>Victoria</i> .
8	1	26	38	23	4	1400	D. C. McHenry, M.A., <i>Victoria</i> .	
2	5	2	5	9	2	800	H. M. Hicks, M.A., <i>Toronto</i> .	
...	...	1	4	15	3	1300	W. W. Tamblyn, M.A., <i>Toronto</i> .	
8	4	...	30	7	2	800	W. W. Jardine, B.A., <i>Toronto</i> .	
2	3	6	1	42	4	1200	Adam Purslow, M.A. LL.D., <i>Victoria</i> .	
30	5	16	10	29	2	900	John Davidson, M.A., <i>Victoria</i> .	
20	20	25	...	39	5	1200	William O'Connor, M.A., <i>Queens, Ireland</i> .	
...	1	3	...	31	4	1200	W. E. Tilley, M.A., <i>Victoria</i> .	
5	2	7	5	5	2	636	J. C. Pomeroy, B.A., <i>Albert</i> .	
10	15	4	...	5	2	800	C. H. Waldron, B.A., <i>Victoria</i> .	
5	3	3	2	28	3	1300	Lyman C. Smith, B.A., <i>Victoria</i> .	
...	...	...	...	12	3	1400	D. McBride, B.A., <i>Victoria</i> .
1	4	7	1	24	3	1200	J. J. Magee, B.A., <i>Toronto</i> .	
3	4	8	11	20	6	1325	L. E. Embree, B.A., <i>Toronto</i> .	
6	5	5	6	3	2	850	W. M. Elliott, M.A., <i>Victoria</i> .	
8	4	40	...	8	2	1000	J. E. Dickson, B.A., <i>Toronto</i> .	
1	...	1	3	25	4	1100	William McBride, M.A., <i>Toronto</i> .	
11	7	15	5	19	2	1000	George Wallace, B.A., <i>Dublin</i> .	
1	7	4	4	25	4	1100	Alexander Murray, M.A., <i>Aberdeen</i> .	
...	...	...	...	5	2	750	A. B. Cooke, B.A., <i>Trinity</i> .
...	...	...	...	48	5	1250	H. B. Spetton, M.A. <i>Toronto</i> .
...	...	...	...	19	2	1000	William Forest, M.D. B.A., <i>Toronto</i> .

IX.—TABLE I.—The

MISCELLANEOUS

HIGH SCHOOLS.		Brick, Stone or Frame.	Firedrill, Leased or Rented.	Size of Playground.	School under United Boards.	Number of Maps in School.	Number of Globes in School.	Schools in which the Bible is read.	Schools in which there are daily prayers.	Number of pupils who matriculated at any University.
				acres.						
Collingwood C. I.....	B.	F.		1		20	2	1	1	5
Orillia.....	B.	F.		3		12	1	1	1	
Oakville.....	B.	F.		1	1	6	2	1	1	
Dundas.....	B.	F.		1	1	30	3	1	1	
Waterdown.....	S.	F.		3	1	20	1	1	1	1
Paris.....	B.	F.		1	1	13	1	1	1	
Beamsville.....	B.	R.		2	1	18	2	1	1	1
Grimsby.....	F.	F.		1		12	2	1	1	1
Niagara.....	B.	F.		1		12	1	1	1	
Smithville.....	F.	F.		1		15	1	1	1	1
Niagara Falls, South.....	F.	F.		2		25	1	1	1	
Thorold.....	B.	F.		2		20	1	1	1	
Welland.....	B.	F.		1		12	1	1	1	1
Calabona.....	B.	F.			1	15	1	1	1	
Cayuga.....	B.	F.				15	1			
Danville.....	F.	F.				12			1	
Port Dover.....	B.	F.		1	1	30	2	1	1	2
Port Rowan.....	B.	F.			1	18	2	1	1	
Simcoe.....	B.	F.		2	1	30	2	1	1	1
Ingersoll.....	B.	F.		2	1	15	1	1	1	8
Woodstock.....	B.	F.		1		12		1	1	
Berlin.....	B.	F.		4		14	1	1	1	2
Galt C. I.....	S.	F.		6		45	6	1	1	10
Ehara.....	S.	R.				14	1	1	1	1
Fergus.....	S.	F.			1	9	2		1	3
Harriston.....	B.	F.		3		14	1			1
Mount Forest.....	F.	F.		1		13	1	1	1	2
Orangeville.....	B.	F.		2		20	1		1	2
Owen Sound.....	B.	F.		4	1	25		1	1	
Listowel.....	B.	F.		2		12	1		1	1
Mitchell.....	B.	F.		1		22			1	
Stratford.....	B.	F.		3		24	2		1	1
St. Mary's C. I.....	B.	F.		2		13	2	1	1	3
Clinton.....	B.	F.		3		12	2	1	1	1
Goderich.....	B.	F.				18	1		1	1
Seaforth.....	B.	F.		4		29		1	1	
Kincardine.....	B.	F.		2	1	20	1	1	1	3
Walkerton.....	B.	F.		1		17	1	1	1	3
Parkhill.....	B.	R.			1	6	2		1	
Strathroy.....	B.	F.				12	2		1	3
Wardsville.....	B.	F.		2	1	14	1			
Aylmer.....	B.	F.				12	1	1	1	1
Vienna.....	B.	F.		1	1	28	1		1	
Chatham.....	B.	F.		5		35	6	1	1	1
Sarnia.....	B.	F.		1	1	21	3	1	1	
Windsor.....	B.	F.			1	12	1	1	1	1
Belevedere.....	B.	F.		1	1	22	2	1	1	5
Brantford C. I.....	B.	F.		1		30	2	1	1	24

High Schools.

INFORMATION.

Number of pupils who entered mercantile life.	Number of pupils who became occupied with agriculture.	Number of pupils who joined any learned profession.	Number of pupils who left for other occupations.	Number of pupils in Preparatory Department.	Number of pupils in Upper School.	Number of Masters and Teachers.	Salary of Head Master.	HEAD MASTERS AND THEIR UNIVERSITIES.
5	10	66	8	121	5	1200	William Williams, B.A., <i>Toronto</i> .	
5	10	4	15	26	3	1000	J. Ryerson, B.A., <i>Toronto</i> .	
6		5	6	8	2	800	N. J. Wellwood, B.A., <i>Toronto</i> .	
5	1	5	11	19	2	1000	J. D. Bissonnette, B.A., <i>Queens'</i> .	
8	13	25	6	33	2	1000	D. H. Hunter, B.A., <i>Toronto</i> .	
5	6	3	17	4	2	1100	J. W. Acres, B.A. L.R.C.P., <i>Trinity</i> .	
1			4	9	2	700	A. W. Reavley, B.A., <i>Toronto</i> .	
4				3	2	800	J. McL. Bell, B.A., <i>Glasgow</i> .	
4	10	7	3	9	2	900	Albert Andrews, <i>Certificate</i> .	
	2	6	3	9	2	750	A. C. Crosby, B.A., <i>Albert</i> .	
6	5	1	4	12	3	850	H. C. Sells, B.A., <i>Toronto</i> .	
8	15	12	8	14	2	1200	Andrew McCulloch, M.A., <i>Queens'</i> .	
12	5	16	4	18	3	1100	J. M. Dunn, B.A. LL.B., <i>Toronto</i> .	
1	4	3	12	3	2	1000	L. A. Kennedy, B.A., <i>Victoria</i> .	
				12	2	800	Addison Cole, B.A., <i>Toronto</i> .	
3	4		10	7	2	800	John P. Hume, B.A., <i>Queens'</i> .	
5	10	15		3	2	850	R. A. Barron, B.A., <i>Toronto</i> .	
10	6	8	17	26	2	850	John McBride, M.A., <i>Toronto</i> .	
5	1	7	16	24	3	1075	Rev. Geo. Grant, B.A., <i>Toronto</i> .	
10	5	3	13	27	3	1000	F. W. Merchant, M.A., <i>Albert</i> .	
6	3	24	6	26	3	1150	George Strauchon, B.A., <i>Albert</i> .	
5	10	6	4	27	3	1200	J. W. Connor, B.A., <i>Toronto</i> .	
5	4	11	8	38	6	2000	John E. Bryant, M.A., <i>Toronto</i> .	
5	5	2	16	12	2	900	A. B. Davidson, B.A., <i>Toronto</i> .	
5	2	36	2	10	2	900	C. F. McGillivray, M.A., <i>Toronto</i> .	
10	6	22	22	40	3	1200	James McMurchie, B.A., <i>Toronto</i> .	
20	15	30	20	13	5	1100	Joseph Reid, B.A. LL.B., <i>Toronto</i> .	
4	1		23	7	3	1000	Alexander Steele, B.A., <i>Toronto</i> .	
3	10	5	14	11	4	1200	Henry De La Matter, <i>Certificate</i> .	
20	14	4	30	9	2	1000	A. B. McCallum, M.A., <i>Queens'</i> .	
10	15	35		16	2	900	William Elliot, B.A., <i>Toronto</i> .	
10	5	2	18	40	4	1100	C. J. Macgregor, M.A., <i>Toronto</i> .	
6	3	27		96	5	1200	J. E. Wetherell, B.A., <i>Toronto</i> .	
	1	17		24	4	1200	James Turnbull, B.A., <i>Toronto</i> .	
7	1	17		18	4	1200	Hugh I. Strang, B.A., <i>Toronto</i> .	
6	9	4	23	54	3	1200	J. C. Harstone, B.A., <i>Toronto</i> .	
6	4	3		29	3	1100	Benjamin Freer, B.A., <i>Trinity</i> .	
10	12		25	24	4	1100	J. Morgan, B.A., <i>Toronto</i> .	
3	6	9	4	47	2	800	Edmund M. Bigg, M.A., <i>Toronto</i> .	
5	4	2	8	67	4	1000	T. Otway Page, B.A., <i>Toronto</i> .	
5	4	2		16	2	800	W. G. McLachlan, B.A., <i>Toronto</i> .	
		3		15	2	1000	W. W. Rutherford, B.A., <i>Toronto</i> .	
19	8	28	7	8	2	850	C. R. Gunne, B.A., <i>Toronto</i> .	
3		12	20	22	6	1200	A. W. Aytoun Finlay, B.A., <i>Victoria</i> .	
6	2	14	7	37	4	1250	William Sinclair, B.A., <i>Toronto</i> .	
20	10	8	40	18	3	1100	Angus Sinclair, M.A., <i>Toronto</i> .	
				33	5	1100	George S. Wright, M.A., <i>Toronto</i> .	
				55	8	1500	William Oliver, B.A., <i>Toronto</i> .	

IX.—TABLE I.—The

MISCELLANEOUS

HIGH SCHOOLS.	Brick, Stone or Frame.	Freehold, Leased or Rented.	Size of Playground.	Schools under United Board.	Number of Maps in School.	Number of Globes in School.	Schools in which the Bible is read.	Schools in which there are daily prayers.	Number of pupils who matriculated at any University.
			acres.						
Guelph.	S.	F.	4	1	21	1		1	1
Hamilton C. I.	S.	F.	180 x 250	1	55	4	1	1	23
Kingston C. I.	S.	F.	14		17	2	1	1	18
London C. I.	B.	F.	2 1/2	1	15	2	1	1	3
Ottawa C. I.	S.	F.	1 1/2		25		1	1	7
St. Catharines C. I.	B.	F.	1 1/2		55	3			9
St. Thomas C. I.	B.	F.	2	1	24	2	1	1	4
Toronto C. I.	B.	F.	2		42	2	1	1	19
	B. S. F.	F. R.	ac.						
Total 1883.	79 19 6	98 6	180	54	1980	156	53	91	277
" 1882	79 19 6	99 5	171	51	2018	148	49	92	272
Increase.		1	9	3		8	4		5
Decrease.		1			38			1	

High Schools.

INFORMATION.

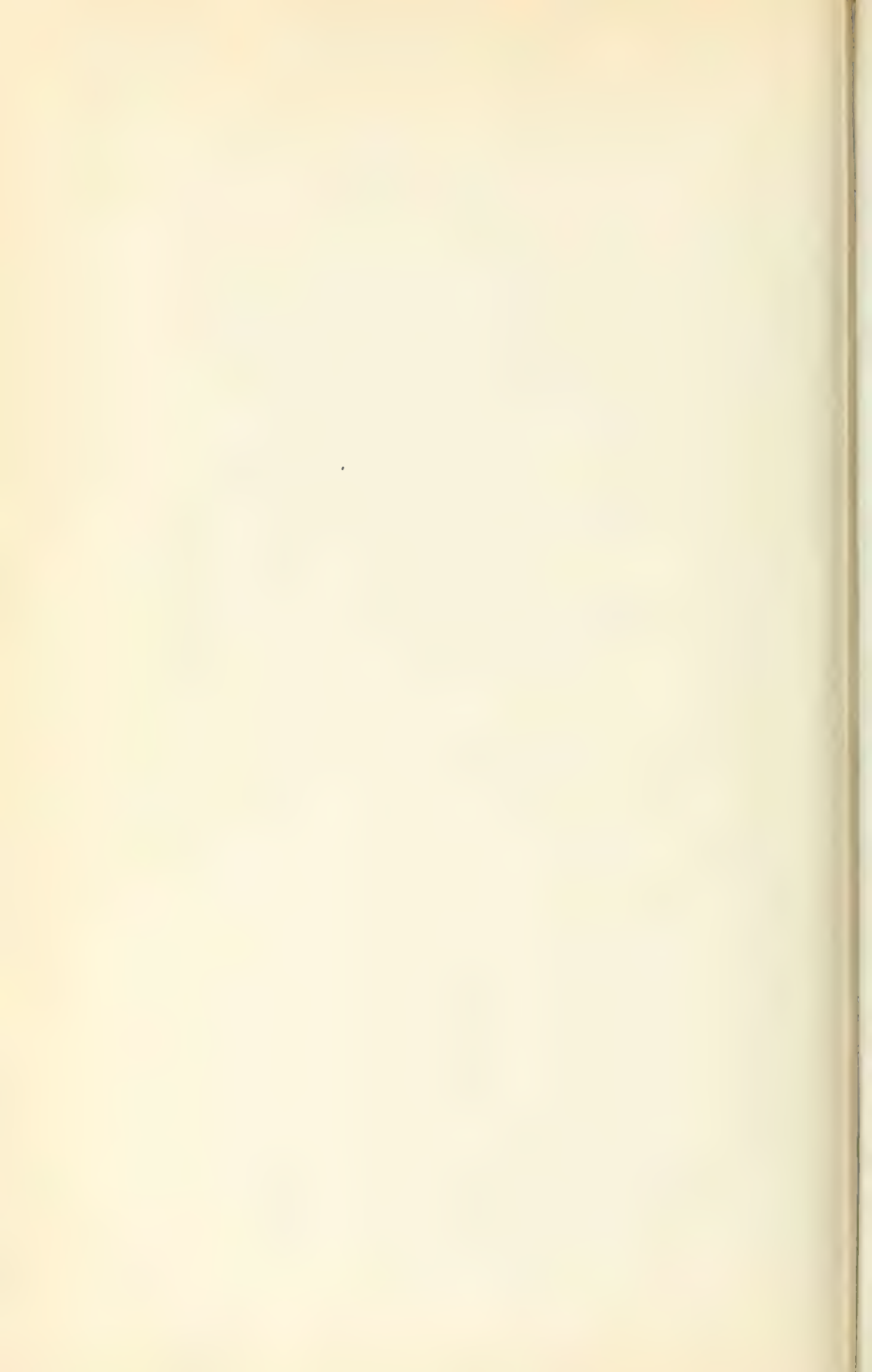
Number of pupils who entered mer- cantile life.	Number of pupils who became occu- pied with agriculture.	Number of pupils who joined any learned profession.	Number of pupils who left for other occupations.	Number of pupils in Preparatory Department.	Number of pupils in Upper School.	Number of Masters and Teachers.	Salary of Head Master.	HEAD MASTERS AND THEIR UNIVERSITIES.	
45	5	2	15	33	4	1050	Wm. Tytler, B. A., <i>Toronto.</i>		
22	26	18	98	116	16	1600	George Dickson, M. A., <i>Victoria.</i>		
20		14		1	21	4	1300	A. P. Knight, M. A., <i>Queens'.</i>	
					32	8	1200	Francis L. Checkley, B. A., <i>Trinity.</i>	
20	10	18	12	45	8	1600	John Macmillan, B. A., <i>Toronto.</i>		
20	30	6	84	72	9	1800	John Seath, B. A., <i>Queens', Ireland.</i>		
35	46	8	58	73	7	1550	John Millar, B. A., <i>Toronto.</i>		
80	15	10	10	2	75	12	2250	Archibald McMurchy, M. A., <i>Toronto.</i>	
						Av.	52 Toronto.	2 Queens', Ireland.	
768	583	868	1068	486	2439	347	1068	20 Victoria.	2 Aberdeen.
881	646	751	1349	259		332	1034	11 Queens'.	1 McGill.
								6 Trinity.	1 Glasgow.
								5 Albert.	2 Certificate.
								2 Dublin.	
		117		227		15	34	1883.	1883.
								High. sal. H. M., \$2,250.	L., H. M., \$636.
13	63		281					1882.	1882.
								High. sal. H. M., \$2,250.	L., H. M., \$700.
								Decrease—Lowest \$64.	

X. TABLE K. — A GENERAL STATISTICAL ABSTRACT, exhibiting the comparative state and progress of Education in Ontario, as connected with Public, Separate and High Schools: also, Normal and Model Schools: from the year 1874 to 1883, inclusive, compiled from Returns in the Education Department.

No.	SUBJECTS COMPARED.	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883
1	Population							191360			
2	Population between the ages of five and sixteen years	511603	501083	502250	494804	492360	494424	489241	48224	48817	478791
3	County High Schools	108	108	104	104	104	104	104	104	104	104
4	Normal and Model Schools	3	3	4	4	4	4	4	6	6	6
5	Total Public Schools in operation as reported	4592	4678	4875	4955	4813	4932	4911	5043	5013	5058
6	Total Roman Catholic Separate Schools	106	156	167	185	177	191	196	195	190	194
7	Grand Total of all Schools in operation	4809	4945	5150	5248	5008	5231	5245	5348	5313	5362
8	Total Pupils attending County High Schools	7871	8342	8741	9229	10574	12136	12910	13136	12473	11843
9	Total Students and Pupils attending Normal and Model Schools	800	800	960	900	900	900	900	1000	1000	1000
10	Total Pupils attending the Public Schools	411261	451568	462443	465908	463465	462233	457734	451419	443364	438192
11	Total Pupils attending the Roman Catholic Separate Schools	22786	22673	28294	24652	25610	24779	25311	24819	26148	26177
12	Grand Total, Students and Pupils attending Public, Separate and High, Normal and Model Schools	472748	48283	49978	500089	500489	500048	496855	490404	484985	477212
13	Total amount paid for the Salaries of Public and Separate School Teachers	\$4647750	\$4758100	\$4838821	\$4938099	\$5011208	\$5072822	\$5113180	\$5210019	\$5214448	\$5210187
14	Total amount paid for the erection or repairs of Public and Separate School Houses, and for Libraries and Apparatus, Books, Fuel, Stationery, etc.	1217582	1234980	1168135	1035390	878139	760262	708872	738232	882526	898243

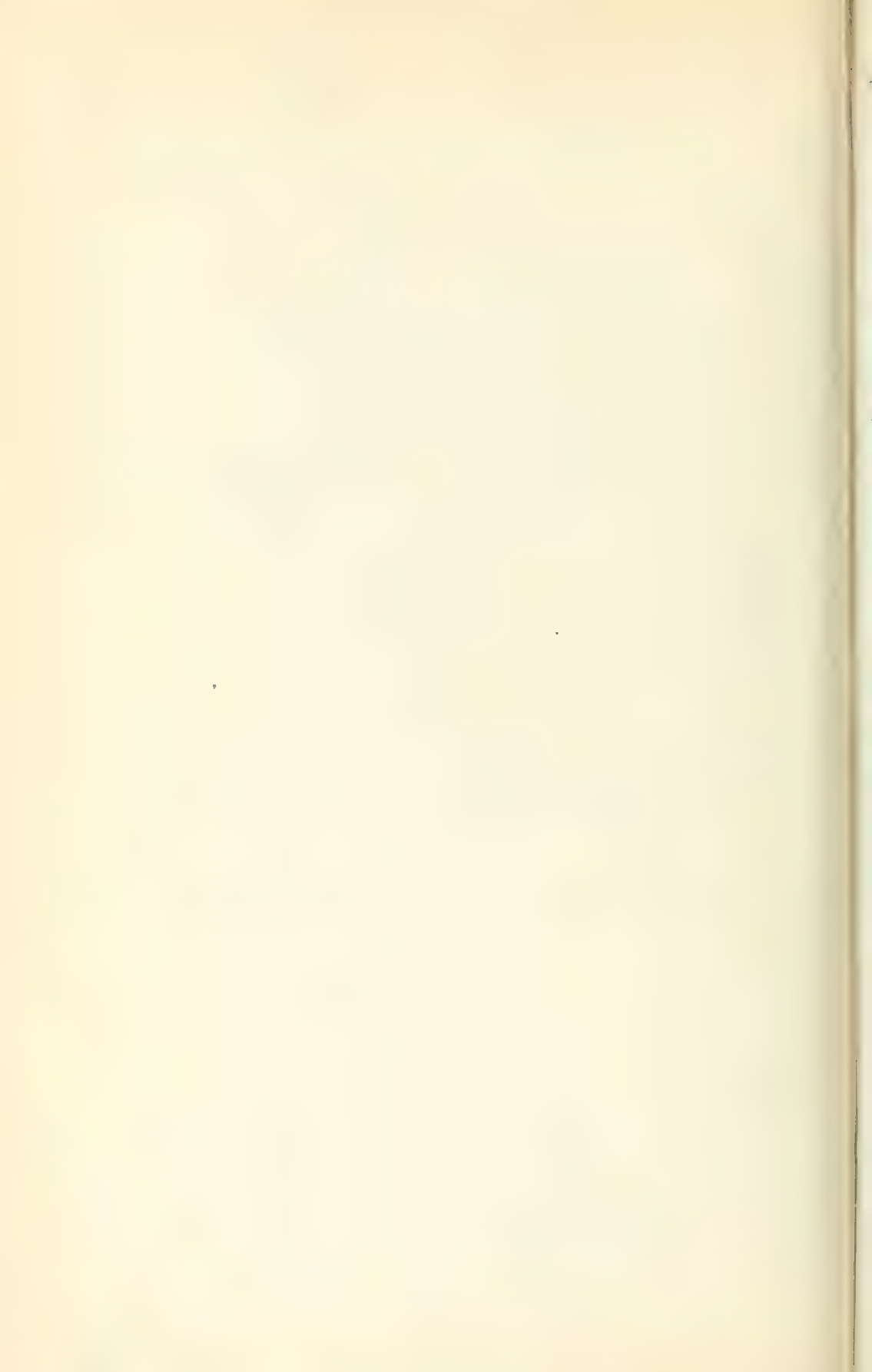
15	Grand Total paid for Public and Separate School Teachers' Salaries, the erection and repairs of School-houses, and for Libraries and Apparatus, etc.	2865382	2993080	3006456	2973489	2880347	2823084	2822052	2841271	3023074	3108430
16	Total amount paid for High School Teachers' Salaries	179946	184752	195006	211607	223010	241097	247894	257218	253864	266317
17	Total amount paid for erection or repairs of High School houses, maps, apparatus, prizes, fuel, books, etc.	106647	147360	109042	132102	173000	139091	166635	88632	89857	82630
18	Amount paid for other Educational purposes * ..	199657	209134	227548	257240	263510	255000	232172	232009	235814	240507
19	Grand Total paid for Educational purposes ..	3351582	3534526	3538352	3574438	3548867	3439472	3468153	3423330	3606509	3697974
20	Total Public School Teachers	5736	6018	6185	6468	6473	6596	6747	6922	6857	6911
21	Total Male Teachers	2601	2645	2780	3020	3060	3153	3264	3362	3062	2829
22	Total Female Teachers	3135	3373	3405	3448	3413	3443	3483	3560	3795	4082
23	Average number of days each Public School has been kept open by a qualified Teacher	204	204	205	204	206	208	208	208	206	207

* Commencing with the year 1874, No. 18 contains the following items: *Cost of Teachers' Associations, Public and Separate School Inspection, High School Inspection, Training of Teachers, Departmental Examinations, Normal and Model Schools, Museum and Library, Superannuated Teachers, Education Department, etc.*



PART II.

PROCEEDINGS FOR THE YEAR 1884.



PART II.

PROCEEDINGS FOR THE YEAR 1884.

DIVISION I.

1. ORDERS IN COUNCIL.

I.—APPOINTMENT OF MISS MARGARET TAYLOR SCOTT AS HEAD MISTRESS OF THE PROVINCIAL MODEL SCHOOL, TORONTO (1st February, 1884).

II.—AMENDED REGULATIONS AS TO THE ESTABLISHMENT AND DISTRIBUTION OF GRANTS TO COLLEGIATE INSTITUTES, SUBSEQUENTLY AMENDED BY ORDER DATED 14TH MARCH, 1884 (1st March, 1884).

III. REGULATIONS AS TO COLLEGIATE INSTITUTES (Approved by the Legislative Assembly, 15th March, 1884).

1. The following conditions are required from each Collegiate Institute now existing, for its continuance, and for the establishment and continuance of any new Collegiate Institute, namely :—

(1) Suitable school buildings, out-buildings, grounds and appliances for physical training.

(2) Library, containing standard books of reference bearing on the subjects of the programme.

(3) Laboratory, with all necessary chemicals, and apparatus for teaching the subjects of Elementary Science.

(4) Four Masters at least, each of whom shall be specially qualified to give instruction in one of the following departments: Classics, Mathematics, Natural Science and Modern Languages, including English.

(5) The other members of the teaching staff must possess such qualifications as will secure thorough instruction in all the subjects on the curriculum of studies for the time being sanctioned by the Education Department for Collegiate Institutes.

2. In case it shall appear, after due inquiry, that any Collegiate Institute has made default in the performance, observance or fulfilment of any of the conditions aforesaid, or in maintaining the proper standard of efficiency, the Lieutenant-Governor in Council may withdraw its status and rights as a Collegiate Institute.

3. The foregoing are intended to apply to every Collegiate Institute that may hereafter be established, and to those now existing, on and after the first day of January, 1885.

IV. APPOINTMENT OF CORNELIUS DONOVAN, M.A., AS ADDITIONAL SEPARATE SCHOOL INSPECTOR (8th April, 1884).

V. REGULATIONS FOR THE DISTRIBUTION OF GRANTS TO COLLEGIATE INSTITUTES AND HIGH SCHOOLS (18th April, 1884).

The Annual Legislative Grants to High Schools and Collegiate Institutes shall be distributed on the following basis, namely :—

A.—HIGH SCHOOLS.

1. Every High School with two qualified teachers shall receive the fixed grant of \$500, and in addition 33½ per cent. of the yearly amount paid for salaries of such teachers from \$1,500 up to \$2,000.

• 2. Every High School, with at least three qualified teachers, shall receive the fixed grant of \$500, and in addition 15 per cent. of the amount by which the aggregate of salaries paid such teachers exceeds \$2,000, but not to exceed \$750 in any case.

3. With a view to encourage the establishment and maintenance of School Libraries and Laboratories, the improvement of grounds and buildings, and the promotion of physical culture, by means of gymnastics, drill and calisthenics, a sum not exceeding \$10,000 is to be apportioned by the Education Department among such High schools (and Collegiate Institutes) as are considered worthy. In the distribution of this sum the average attendance will be taken into account.

B. COLLEGIATE INSTITUTES.

4. Every Collegiate Institute complying with all the conditions prescribed by the Education Department for Collegiate Institutes, as such, shall receive the fixed High School Grant of \$500, the special grant for Collegiate Institutes, \$250, also 33½ per cent. of the yearly amount paid for salaries of the four duly qualified teachers from \$2,000 up to \$4,500, but not to exceed \$750, also 33½ per cent. on the amount by which the aggregate of all salaries exceeds \$4,500, but not to exceed \$500 in any case.

The above regulations for the apportionment shall take effect from 1st January, 1885, the first grants on this arrangement being payable in July of that year. In the event of the Legislative Grant not being sufficient in any year to pay the full sum apportioned, a deduction shall be made *pro rata* from the amount for each Collegiate Institute or High School, but so that no school shall receive less than \$500 per annum.

VI. APPOINTMENT OF JOHN J. TILLEY, COUNTY MODEL SCHOOL INSPECTOR (10th June, 1884).

VII. APPOINTMENT OF ANGUS MCINTOSH, AS 1ST ASSISTANT; JAMES McLURG, AS 2ND ASSISTANT; MISS HATTIE McLELLAN, AS 3RD ASSISTANT (MALE DEPARTMENT) OF THE PROVINCIAL MODEL SCHOOL, TORONTO; AND OF MISS MARGARET A. MILLS, AS 3RD ASSISTANT (FEMALE DEPARTMENT) OF THE PROVINCIAL MODEL SCHOOL, OTTAWA (18th August, 1884).

VIII. STRATFORD HIGH SCHOOL TO RANK AS A COLLEGIATE INSTITUTE FROM 1ST JANUARY, 1885 (2nd October, 1884).

IX. APPOINTMENT OF JAMES A. McLELLAN, LL.D., AS DIRECTOR OF TEACHERS' INSTITUTES; AND OF JOHN SEATH, B.A., AS INSPECTOR OF HIGH SCHOOLS (15th October, 1884).

X. APPOINTMENT OF OLIVER MACDONALD, AS JANITOR OF THE GIRL'S MODEL SCHOOL, OTTAWA (24th November, 1884).

XI. APPOINTMENT OF GEORGE ARTHUR ROSE AS CONFIDENTIAL PRINTER (26th Nov. 1884).

XII. READING BOOKS (4th December, A.D. 1884).

Upon consideration of the report of the Honourable the Minister of Education, dated the Second day of December, 1884, the Committee of Council advise that the authorization of the Third, Fourth and Fifth Readers of the series now in use, be extended to the First day of January, 1886.

The Committee further advise that in view of the early publication of a series of Readers prepared under the direction of the Education Department, to be known as the "Ontario Readers," the authorization of the "Royal" and "Canadian Readers" shall cease and determine on the First day of January, 1886.

XIII. READING BOOKS (18th December, 1884).

Upon the recommendation of the Honourable the Minister of Education, the Committee of Council advise that the agreement between William James Gage, the Canada Publishing Company (Limited), and Thomas Nelson and William Nelson, trading under the name and style of Thomas Nelson & Sons, and Her Majesty the Queen, represented by the Honourable the Minister of Education for the Province of Ontario, acting for the Education Department of Ontario, for the publication of a series of Readers, to be known as the "Ontario Readers," be approved of by Your Honor.

XIV. STRATHROY HIGH SCHOOL, TO RANK AS A COLLEGIATE INSTITUTE, FROM 1ST JANUARY, 1885 (18th December, 1884).

2. MINUTES OF DEPARTMENT.

I. APPOINTMENT OF JOHN BREBNER, AS PUBLIC SCHOOL INSPECTOR OF THE TOWN OF PETROLEA (25th January 1884).

II. APPOINTMENT OF JOHN DEARNESS, AS MEMBER OF THE CENTRAL COMMITTEE OF EXAMINERS (29th January, 1884).

III. EXAMINATION REGULATIONS APPROVED (18th February, 1884).

1. Every candidate for a Third Class Certificate must pass in the subjects of Reading and Writing, in addition to the subjects heretofore required. The Presiding Examiner in the subject of *Reading* shall be selected by the County Board of Examiners. He shall hear each of the candidates read a passage selected by the Examiners from an authorized Fifth Reader, the result to be reported to the Department. The paper in Writing will also be considered by the Central Committee.

2. To encourage the study of Music and Drawing, an examination may be passed in either or both of the subjects, and the number of marks obtained by the candidate will be added as a *bonus* to his total. The value of each of these subjects is fixed at 75 marks.

3. For Second Class Grade B, candidates shall be required to obtain twenty-five per cent. of the marks attainable in each subject taken by such candidate, except in English Grammar and Arithmetic, for which subjects thirty per cent. shall be required. On the papers for Intermediate and Third Class, the same proportion of marks shall be required, and in both cases fifty per cent. of the aggregate of marks of the whole of such subjects is necessary.

4. For Second Class Grade A., thirty per cent. of the marks in each of the subjects is required, and sixty per cent. of the aggregate.

5. The Examination for Second Class will immediately follow the Intermediate and Third Class Examinations, so that both can be taken by the same candidate, but Third Class Certificates will not be awarded on Second Class papers.

6. A fee of one dollar will be required from each candidate (*a*) at the Intermediate or Third Class Examination, but not at both, (*b*) at the Second Class Examination.

7. The percentage of marks at the First Class Non-Professional Examination shall be fifty, sixty and seventy per cent. for Grades "C," "B" and "A," respectively.

IV. CERTIFICATES CANCELLED OF PERSONS CONNECTED WITH FRAUDS AT DEPARTMENTAL EXAMINATIONS, HELD IN THE COUNTY OF SIMCOE, DURING THE YEARS 1879-1881 (22nd February, 1884).

NAMES.	GRADE.	CLASS.
Huggard, Charles E.	Grade B	Second Class
Mainprize, Matilda	" B	" "
Hagar, Maggie L. G.	" B	" "
Metcalf, Richard W.	" B	" "
Thompson, George	" B	" "
Stewart, James A.	" A	" "
Mainprize, Emma	" B	" "
Stinson, James F.	" B	" "
Wark, Jeremiah	" B	" "
Gilpin, James	" B	" "
Baile, Daniel	" B	" "
Brownlee, William	" A	" "
Hewlett, James	" A	" "
Steele, J. B.	" B	" "
Stewart, Gerald	" B	" "
Stewart, William F.	Intermediate	" "
McMaster, John	"	" "

V. CERTAIN CANDIDATES FOR SECOND CLASS CERTIFICATES AUTHORIZED TO TEACH AND TO RECEIVE FULL CERTIFICATES ON PASSING FURTHER IN SPECIFIED SUBJECTS (29th February, 1884).

VI. SUB-EXAMINERS APPOINTED (27th May, 1884).

VII. SUB-EXAMINERS APPOINTED (5th June, 1884).

VIII. SUB-EXAMINERS APPOINTED (7th July, 1884).

IX. SUB-EXAMINERS APPOINTED (7th July, 1884).

X., XI. CERTAIN CANDIDATES FOR SECOND CLASS CERTIFICATES AUTHORIZED TO TEACH AND TO RECEIVE FULL CERTIFICATES ON PASSING FURTHER IN SPECIFIED SUBJECTS (22nd July, 1884). (23rd December 1884).

3.—CIRCULARS FROM THE MINISTER OF EDUCATION TO INSPECTORS, TRUSTEES AND TEACHERS.

UNAUTHORIZED TEXT BOOKS.

I understand that many unauthorized books are being used in our Public Schools. The Education Department is unfairly censured for the frequent changes made in the use of text books, and, as I am convinced that much of the censure arises from the use of unauthorized books permitted by the Teacher, without the knowledge of the Trustees, or of the Department, I would call your attention to the provisions of the law, and request that during the current half yearly visit, you will make special enquiry at every school, and report to me every teacher, with his Post Office address, that permits the use of any unauthorized text book. You will also report the names of the books so used and what action you have taken yourself in the matter. Unless a vigorous effort is made by the

school authorities to prevent this infraction of the law, it will be necessary for the Department to put in motion the powers which the statute confers upon it. The following are the provisions of the law.—

(a) Duties of Public School Inspectors. Chap. 204, sec. 194, R. S. O.

To prevent the use of unauthorized, and to recommend the use of authorized books in each school. * * *

Not to give a cheque for any portion of the school funds to any school section which has not been conducted according to the law, and regulations provided under its authority.

(b) Duties of Teachers. 44 Vic. Cap. 30, sec. 12.

No teacher shall substitute for any authorized book in actual use in his school, any other text book on the same subject, unless, and until he shall have obtained the written approval of the public school board of trustees, and the public school inspector, to such change; but every such approval must be sanctioned by the Minister of Education, and no such change shall take place until the first day of January which shall occur after the first day of July previous to which such approval and sanction have been obtained; and in case any teacher or other person shall negligently or improperly substitute any text book in place of any authorized text book in actual use upon the same subject in his school, he shall for each such offence, on conviction thereof before a police magistrate or justice of the peace, as the case may be, be liable to a penalty not exceeding ten dollars, payable to the municipality for public school purposes, together with costs, as the police magistrate or justice may think fit.

(c) Duties of Trustees. Chap. 204, sec. 102, sub-sec. 23, R. S. O.

To see that no unauthorized books are used in the school, and to see that all the pupils in the schools are duly supplied with a uniform series of authorized text books.

Section 12. No portion of the legislative school grant shall be applied in aid of any school in which any book is used that has been disapproved of by the Education Department, and public notice given of such disapproval.

Section 228. Trustees shall be personally responsible for the amount of any school moneys forfeited by, or lost to the school section in consequence of the neglect of duty of the trustees during their continuance in office.

As an officer of the Department you are responsible for seeing that the regulations regarding text books are faithfully carried out. It is exceedingly desirable that the utmost vigilance should be exercised in the matter above referred to.

TORONTO, *February, 1884.*

INSTRUCTIONS FOR THE STAFF OF NORMAL AND MODEL SCHOOLS.

NORMAL SCHOOL.

1. The Principal shall be responsible for the order, discipline and general progress of the Students in all classes.

2. He shall, from time to time, visit the classes under the charge of the other Masters, and may, if he think proper, question the class or individual members thereof, to satisfy himself as to their progress.

3. He shall keep a Record of the results of examinations held by himself and the other members of the Staff.

Normal School Masters.

1. The Masters shall be responsible to the Principal for the order, discipline and general progress of their classes.

2. They shall, at least once in every four weeks, report to the Principal the standing of each student in the subjects of their Departments: of this standing, which may be

obtained by an oral or a written examination, a Record shall be kept by the Principal, and this Record, together with a similar one embracing the Principal's subjects, shall determine the student's status as to scholarship.

3. Absence from any particular class shall be reported to the Principal within the day of such absence.

4. Should any of the Normal School Masters, when visiting the Model School, notice that the Model School teacher in charge is presenting a subject in his (the Normal School Master's) department, in a manner at variance with his method as taught in the Normal School, he shall call the attention of the Model School teacher to that fact, through the Head Master or the Head Mistress.

5. All other officials shall be responsible to the Principal for the proper discharge of their duties.

Provision for Principal's absence.

Should the Principal at any time be called away from the School, the Senior Master shall exercise full jurisdiction.

MODEL SCHOOL.

Head Master and Head Mistress.

1. These teachers shall be responsible to the Principal for the order, discipline and general progress of the pupils attending all the classes; and they, together with the Assistant Teachers, shall see that the Janitors carry out the instructions given them by the Principal.

2. They shall, as often as possible, visit the classes taught by their Assistants, for the purpose of satisfying themselves that the work is being thoroughly done. To this end they shall make themselves familiar with the methods suggested in the lectures given in the Normal School. If they find it necessary they shall call the attention of these Assistants to needful improvements, but not in the presence of the pupils.

3. They may, at any time, if they think fit, question the pupils of any class. This should be done in a manner as courteous as possible to the Assistant.

4. They shall have charge of the Application Register, and shall see that all the facts enquired about by that Register are fully and accurately stated.

5. They shall subject to examination all applicants for admission to classes above the First and Second; the necessary papers being prepared and answers read by teachers of the class for which the pupil applies.

6. No admissions will be made except at the beginning of a Session, i.e., immediately after the Midsummer and Christmas vacations.

7. Should any vacancy occur during a Session, pupils *may* be admitted, but only on their passing an examination equivalent to the work then being done by the class.

8. Should a pupil be absent for a month or a longer period, his place can be retained only by payment of the usual fee.

9. Notices sent to parents with regard to the admission of their children to the school, shall be signed by the Principal.

10. The Head Master and the Head Mistress shall have power to suspend any pupil for a period not exceeding one day, if it become necessary to do so. The fact must be at once reported to the Principal. The parents also shall be notified of the suspension and its cause; and, should circumstances require it, the Head Master or the Head Mistress shall seek an interview with the parents.

11. They shall see that no corporal punishment be used in the school-room. If the pupils are kept employed, and the teacher gains their affections by manner and by method of teaching, there will be no necessity for resorting to this mode of discipline.

12. They shall lay down at the beginning of each session General Rules for the guidance of the pupils throughout the session.

13. They shall, in case of any Assistant being absent through illness, at once report the fact to the Principal, who will, if the Normal School is in session, endeavour to supply

the place by a student : otherwise the Head Master shall make such temporary provision as is considered most suitable, subject to the approval of the Principal.

14. They shall see that the Honor Rolls of their own and of the other classes are carefully compiled and hung up in a conspicuous part of the class-room.

15. They shall keep a record of all cases of discipline with which they have to deal directly, as well as of those referred to in No. 2 *d.* of instructions to Assistants : at the same time they shall report these facts to the Principal, not necessarily for his interference, but for his information. If these admonitions from the Head Master or the Head Mistress fail to secure improvement, the pupil shall be sent to the Principal, who will deal with such case according to his judgment.

Assistant Teachers.

1. Assistant Teachers shall be responsible to the Head Master or the Head Mistress, for the order, discipline and general progress of their classes.

2*a.* Each assistant shall have power to deal directly with all minor cases of discipline in his or her own class, such as absence, tardiness, careless preparation, general neglect or indifference. *b.* Should such absence, tardiness, etc., be of frequent occurrence, it shall be their duty to report to the Head Master. *c.* When notices of absence, etc., are sent to a parent, they must be signed by the Head Master or the Head Mistress. *d.* Should no improvement in respect of any of these faults manifest itself, the Assistant shall report the fact to the Head Master or the Head Mistress, who will deal with the case as he or she thinks proper.

3. Permission for *necessary* absence desired by any Assistant must be obtained from the Principal through the Head Master.

4*a.* In the morning, for thirty minutes before nine, during the morning recess, and at the noon hour, it shall be the duty of one Assistant to be on the play-ground, and of another to be in class-rooms, halls, and cloak-rooms, to see that the pupils comport themselves as become Model School pupils. *b.* Should any pupil be detained after school hours, an Assistant shall also remain. *c.* An Assistant shall have charge and supervision, if pupils remain to play after school hours.

5. When Special Masters are engaged in teaching, the Assistant Teachers shall, in order to allow these Masters to devote themselves wholly to their work, have the oversight of the class.

Special Masters.

The work of these Masters shall be under the general supervision of the Head Master and the Head Mistress, subject to reference to the Principal.

TORONTO, April, 1884.

COUNTY MODEL SCHOOL BOARDS.

GENTLEMEN,—The establishment of County Model Schools was designed to place within easy reach of all the young teachers of the Province the facilities for such training in the art of teaching as would enable them to enter upon their profession with clear and definite views, both as to its duties and difficulties.

By the Departmental regulations no person can enter the profession without this preliminary training : and, without the hearty co-operation of the Trustees of the Public School to which the Model School is attached, it will be impossible to arrange the course of study in such a way as to get the best results. The response made by trustees to the requirements of the Education Department has in the main been very satisfactory, and has led to the establishment of fifty-two model schools, in which nearly 1,000 teachers are annually trained. Complaint is made, 1st, that the Legislative grant is not sufficient ; and 2nd, that the Model School interferes with the work of the Public School. The first complaint is one which the Legislature can easily remove : the second, though not at all serious, will, I believe, be very much lessened under the new regulations by which it is

proposed to reduce the actual teaching by the students to about one hour a day during a period of seven weeks, and this only after they have received full instruction as to how they should conduct themselves before a class.

But while on the one hand it is desirable that the Public School should not suffer because of its connection with the Model School, on the other hand it is also desirable that every facility should be afforded the Model School students in the pursuit of their studies. At present the greatest obstacle in the way is the fact that the Principal of the Model School in several cases is required to do the Model School work before and after the regular school hours. The physical strain involved is too great for effective work in either capacity. So strongly have Boards of Trustees been impressed with this, and so anxious have they been to aid in the great work of improving our school system, that already in twelve schools the Principal has been relieved during the whole Model School term, and in eighteen schools from two to three hours per day. In the remaining twenty-two schools no adequate relief has been provided. As this is a vital matter to the success of the whole scheme, the following plans for relieving the Principal are suggested:—

1. Employing an extra assistant during the Model School term.
2. Employing a duly qualified person to do the Model School work.
3. Dismissing a junior division at 11 a.m. and at 3 p.m., and allowing the teacher to take some of the less difficult subjects in the Principal's room.
4. Securing the services of a High School student during a portion of each day. As Boards of Trustees are to be permitted, under the new regulations, to impose a fee of not more than \$5 on each teacher in training, the expense incurred will be fully met without any additional cost to the Board.

I shall be glad to hear that you have, either in one of the ways indicated, or in some other way, provided such assistance for your Principal (if not already done) as will place your Model School in a position to render its share of the great work of training teachers as thorough and efficient as may be desired.

NOTE TO INSPECTORS.—It is very desirable that Inspectors should aid and encourage Trustees in providing the much needed help above referred to for the Principals of Model Schools.

TORONTO, July, 1884.

TEACHERS' ASSOCIATIONS.

1. *Objects of Association.*—In each county or inspectorial division a Teachers' Association shall be formed, the object of which shall be to read papers and discuss matters having a practical bearing on the daily work of the school-room.

2. *Officers.*—The officers of the Association shall be a president, vice-president, and secretary-treasurer. There shall also be a management committee of five. The officers of the Association and the management committee shall be elected annually.

3. *Meetings.*—There shall be at least one meeting of the Association each year, extending over two or more days, to be called the annual meeting, for the election of officers and the discussion of such matters as may be submitted by the management committee.

4. *Sessions.*—The session of the annual meeting on the first day shall be from 10 a.m. to 12 m., and from 2 p.m. to 5 p.m.; on the second day from 9 a.m. to 12 m., and from 2 p.m. to 4 p.m.

5. *Time and place.*—The time and place for holding this meeting, and the programme for the same, shall be arranged by the Education Department on consultation with the Inspector or Inspectors of the county or divisional Association. A copy of the programme should be sent to every teacher in the county or inspectorial division at least one month before the time of the meeting. The work of the Association shall be as practicable as possible, and at every meeting illustrative teaching of classes should form a prominent part of the proceedings. All questions and discussions foreign to the Teachers' work should be avoided.

6. *Township Meetings.*—Another meeting, arrangements for which should be made at the annual meeting of the Association, for the county or inspectoral division, may be held during the year : or in lieu thereof a series of Township Associations may be held in the townships or union of townships in the county.

7. *Teachers to attend.*—It shall be the duty of every teacher to attend continuously all the meetings of the Association held in his county or inspectoral division (two days in each half year so spent to be counted as visiting days), and in the event of his inability to do so, to report to his Inspector, giving reasons for his absence.

8. *Inspector's duty.*—It shall be the duty of the Inspector to furnish the secretary of the Association with a list of the teachers in his county or inspectoral division. From this list the roll shall be called at the opening of each session. He shall also report to the Department on the form prescribed.

9. The following order of business is recommended :—

First Day.

1. Opening.
2. Appointment of committees.
3. Business.
4. Reading and discussion of papers.
5. Lecture in the evening by the Departmental Director of Teachers' Associations.

Second Day.

1. Opening.
2. Receiving report of committees.
3. Business.
4. Reading and discussion of papers.
5. Election of Officers.
6. Closing.

10. *Director.*—The Departmental Director of Teachers' Associations shall attend the annual meeting of each Association, and shall discuss at least three subjects on the programme, and deliver a public lecture on the evening of the first day.

TORONTO, August, 1884.

Under the regulations of 1877 Teachers' Associations were first recognized by law as part of the educational machinery of the Province. Since that time, owing largely to the zeal of the profession and the energy of the Inspectors, they have grown rapidly in popularity and usefulness, and are now regarded as an essential element of our system of education. It is not possible within the limits of a brief circular to point out all the benefits already derived from these meetings. Suffice it to say that they have kept up an *esprit de corps* among the profession ; they have led to improved methods of instruction in the school room ; they have incited teachers to reflection in regard to their school-room duties ; they have stimulated and encouraged many who lacked confidence in themselves ; they have unified the course of study by means of promotion examinations ; they have developed better social relations between members of the profession ; they have given Inspectors opportunities of conveying instruction in the mass that could not be done as well individually ; and above all they have aroused a deeper public interest in the great work in which the teacher is daily engaged. But while all this has been done by the almost unaided efforts of the profession, it is believed still better results will be secured by placing them under the supervision of an officer of the Department. It has too often happened that teachers attend meetings of their associations at much inconvenience and expense, only to find a poor programme badly carried out. The presence of a competent officer at each meeting would at least partially obviate this evil, and be some guarantee that the meeting would not be a failure. Accordingly, the Department

has appointed such an officer, with the title of "Director of Teachers' Institutes," whose duties briefly are (a) to visit each Institute annually; (b) to deliver at least three lectures to the Institute, and one public address at each visit; (c) to form the teachers into classes for instruction in methods of teaching; (d) to direct the profession either by examination, or otherwise, as to the literature that should occupy their attention during their spare hours; (e) to arouse their professional enthusiasm by personal intercourse and advice; (f) to meet trustees and other school officers and give such information in regard to school matters as may be required; (g) to report annually to the Department the attendance at each meeting, the nature of the work done, etc.

In order to carry out this programme it will be necessary for the Department to fix the *time* for each meeting. The calendar appended will show the arrangements for 1884-5. The *place* of meeting is to be settled by the Executive Committee as formerly. The subjects to be discussed are also left to the judgment of the Executive, only that time should be allowed for one lecture the first day, and two the second, by the Director of Institutes.

It is not to be forgotten that while assistance is being rendered, as above indicated, much will still depend upon local effort. The object of the Department in providing official assistance is not to supersede but to supplement home talent. It will also be observed that the annual meetings for 1884-5 are not held for Inspectoral Divisions, but for Counties. This is unavoidable, as the season during which teachers can be conveniently assembled is very short. Should it appear, however, that county meetings are too cumbrous or otherwise unsuitable, different arrangements might be considered for 1886.

Toronto, Sept., 1884.

TEACHERS INSTITUTES.—1884-5.

NOTE.—The counties on the left are to be visited by Dr. McLellan, on the right by Mr. Tilley.

DATES OF ANNUAL MEETINGS.—1884-1885.

1884.

Counties.		Counties.	
Lambton.....	Oct. 9th and 10th.	Renfrew.....	Sept. 26th and 27th.
Kent.....	" 16th and 17th.	Prescott and Russell	Oct. 3rd and 4th.
Huron.....	" 23rd and 24th.	Dundas.....	" 10th and 11th.
Halton.....	" 30th and 31st.	Prince Edward.....	" 17th and 24th.
Wentworth.....	Nov. 6th and 7th.		

1885.

Counties.	JANUARY.	Counties.
South York.....	15th and 16th	East Bruce
North York.....	22nd and 23rd	Peel
Simcoe.....	29th and 30th	Ontario
	FEBRUARY.	
Peterboro'.....	5th and 6th.....	Northumberland
Durham.....	12th and 13th.....	West Victoria
Wellington.....	19th and 20th.....	Leeds
Waterloo.....	26th and 27th.....	Grenville
	MARCH.	
East Victoria.....	2nd and 3rd.....	Stormont
Haliburton.....	5th and 6th.....	Lanark
Brant.....	APRIL 30th and MAY 1st	Welland

Counties.	MAY.	Counties.
Hastings	7th and 8th	Halton
Lennox and Addington	14th and 15th	West Bruce
Prince Edward	18th and 19th	North Grey
Frontenac	21st and 22nd	South Grey
Renfrew	28th and 29th	
JUNE.		
Haldimand	12th and 13th	Dufferin
	19th and 20th	Huron
SEPTEMBER.		
Glengarry	17th and 18th	Norfolk
Prescott and Russell	24th and 25th	Kent
OCTOBER.		
Lincoln	1st and 2nd	Wentworth
Elgin	8th and 9th	Oxford
Middlesex	15th and 16th	Lambton
Perth	22nd and 23rd	Essex
Dundas	29th and 30th	
NOVEMBER.		
Carleton	5th and 6th	

QUALIFICATIONS OF HIGH SCHOOL HEAD MASTERS AND ASSISTANT MASTERS.

1. The qualifications of the Head Master of a High School or a Collegiate Institute shall be (a) a degree in Arts obtained after a regular course of study from any chartered University in the British Dominions, and (b) one year's successful experience as an Assistant Master in a High School, or an equivalent experience in a College or Private School.

Assistant Masters.

2. The qualifications of an Assistant Master shall be (a) a degree in Arts as above ; or (b) a First or Second Class Certificate as a Public School Teacher ; or (c) a permit from the Education Department.

3. An applicant for a permit must furnish satisfactory evidence of (a) good moral character, (b) literary attainments, and (c) successful experience as a teacher.

4. Permits shall be valid for one year only, but may be renewed for another year, at the request of the Trustees of a High School or Collegiate Institute, proposing to engage the services of the applicant.

Toronto, October, 1884.

4.—CERTIFICATES OF ELIGIBILITY.

FOR

INSPECTORS, HIGH SCHOOL MASTERS, AND EXAMINERS.

(Continued from Report of 1883.)

1. NAMES OF PERSONS WHO HAVE RECEIVED INSPECTORS' CERTIFICATES.

NOTE.—All Inspectors will be *ex-officio* members of the Board of Examiners for their respective Counties.

Crosby, Alonzo C., B.A.
Deacon, John Scott.
Dawson, R., B.A.
Davis, Bidwell N., B.A.
Ferguson, Miles.
Hughes, Samuel.

Irvine, William H., B.A.
Lyall, Thomas F., B.A.
Merchant, Francis Walter, B.A.
Mayberry, Charles A., B.A.
McMillan, Alexander.
McGillivray, D., B.A.

Odium, Edward, M.A.
Robertson, Neil, B.A.
Whittington, A., M.A.
Wright, Arthur W., B.A.
Walrond, Thomas James.

2. NAMES OF PERSONS WHO HAVE RECEIVED HIGH SCHOOL MASTERS' CERTIFICATES.

Alexander, L. H., B.A.	Haight, Milton, B.A.	Robertson, Charles, B.A.
Bellamy, Jerrie S., B.A.	Hopper, Samuel Thos., B.A.	Riddell, George J., B.A.
Cody, W. S., B.A.	Kemp, Chester Charles, B.A.	Shepherd, William Geo., B.A.
Connell, J. C., B.A.	Langford, A. L., B.A.	Stevenson, Andrew, B.A.
Evans, Walter T., B.A.	Mulloy, Charles Wesley, B.A.	Simpson, John, B.A.
Grant, D. M., B.A.	McKay, Alexander Grant, B.A.	Waldron, Charles H., B.A.
Henry, Thomas M., B.A.	McGillivray, D., B.A.	Westlake, H., B.A.
	Packman, James H., B.A.	
	Park, Henry G., B.A.	

3. NAMES OF PERSONS WHO HAVE RECEIVED EXAMINERS' CERTIFICATES.

Hamilton, John Arthur, B.A.	McKay, Alexander Grant, BA.
Harstone, J. C., B.A.	Seymour, W. F.
Kennedy, Lyman A., B.A.	

5.—CONFIRMATION OF BY-LAWS.

The following is a list of the by-laws confirmed during 1884.

Municipality passing the By-law.	Date of Application to confirm.	School Corporations affected.	Other Municipalities concerned.	How disposed of.
Township of Toronto.	17th March, 1884.	Sec. 18, Tp. Toronto.	Village of Streetsville	By-law No. 421, Confirmed 2nd April.
Village of Streetsville.	23rd Feb., 1884.	Village of Streetsville	No. 18, Tp. Toronto.	By-law No. 166, Confirmed 2nd April.
Township of Brock.	10th Nov., 1884.	Cannington School Sec. formerly known as School Sec. No. 15 Brock.	School Nos. 8 and 10, Brock	By-law No. 357, Confirmed 24th Nov.

DIVISION II.

PROVINCIAL NORMAL AND MODEL SCHOOLS.

I. THE TORONTO NORMAL SCHOOL.

1. Staff of the Toronto Normal School, 1884.

H. W. Davies, D.D.....	Principal.		
Thomas Kirkland.....	Science Master.		
James Carlyle, M.D.....	Mathematical Master.		
Samuel Clare.....	Writing and Bookkeeping Master, and in Model School.		
J. H. McFaul.....	Drawing	"	"
S. H. Preston.....	Music	"	"
Richard Lewis.....	Elocution	"	"
T. Parr.....	Drill and Calisthenics	"	"

2. Students in the Toronto Normal School, 1883, 1884.

	ADMITTED.	
	Male.	Female.
First Session . . .	43	78
Second Session	41	57
Total.....	84	135

COUNTIES OF 2ND CLASS STUDENTS ATTENDING, 1883-4.

[illegible]

The Toronto Normal School

RELIGIOUS PERSUASIONS OF STUDENTS.

Church of England.		Roman Catholic.		Presbyterian.		Methodist.		Baptist.		Congregational.		Friends.		Other Persuasions.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
6	15	2	3	30	57	36	39	2	7	2	1	6	10		
For the years 1883-4															

II.—THE OTTAWA NORMAL SCHOOL.

1. *Staff of the Ottawa Normal School, 1884.*

J. A. McCabe, M.A. Principal.

Geo. Baptie, M.A., M.B. Science Master.

Wm. Scott, B.A. Mathematical Master.

D. J. Bannell Sawyer Writing and Bookkeeping Master, and in Model School.

R. H. Whale Drawing Master, and in Model School.

W. G. Workman Music “ “ “

E. B. Cope Drill and Calisthenics Master, and in Model School.

2. *Students in the Ottawa Normal School, 1883-4.*

	ADMITTED.	
	Male.	Female.
First Session	29	52
Second do	25	26
Total	54	78

CONTENTS ATTACHED, 1841.

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The Ottawa Normal School.

COUNTIES OF 2ND CLASS STUDENTS ATTENDING, 1883-4.

Simcoe.		Wentworth.		Brant.		Lincoln.		Welland.		Haldimand.		Norfolk.		Oxford.		Waterloo.		Wellington.		Dufferin.		Grey.		Perth.		Huron.		Bruce.		Middlesex.		Elgin.		Kent.		Lambton.		Knox.		Quebec.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
2	2	1	3	1	1	1	1	1	2	1	1	1	1	3	1	3	4	3	3	1	1	1	1	1	1	4	1	3	1	3	5	1	1	3	3	2	1	2	1	2	1

For the year 1883-4.

RELIGIOUS PERSUASIONS OF STUDENTS.

For the years 1883-4.														
	Church of England.		Roman Catholic.		Presbyterian.		Methodist.		Baptist.		(Congregationalist.)		Miscellaneous.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
	5	17	8	9	16	29	21	22					1	3
														1
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III.—THE MODEL SCHOOL, TORONTO.

1.—*Staff of the Toronto Model School, 1884.*

Charles Clarkson, B.A.	Head Master, Boys' Model School.		
Angus McIntosh	First Assistant,	"	"
James McLurg	Second "	"	"
Hattie McLellan	Third "	"	"
Margaret T. Scott	Head Mistress, Girls' Model School.		
K. F. Hagarty	First Assistant,	"	"
M. Meehan	Second "	"	"
J. Meneilley	Third "	"	"

2.—*Number of Pupils in 1884.*

Boys, 178	Girls, 188	Total, 366.
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IV.—THE MODEL SCHOOL, OTTAWA.

1.—*Staff of the Ottawa Model School, 1884.*

Edwin D. Parlow	Head Master, Boys' Model School.		
Thomas Swift	First Assistant,	"	"
R. H. Cowley	Second "	"	"
Eliza Bolton	Third "	"	"
Adeline Shenick	Head Mistress, Girls	"	"
Maggie Cusack	First Assistant	"	"
Mary G. Joyce	Second "	"	"
Margaret A. Mills	Third "	"	"

2. *Number of Pupils in 1884.*

Boys, 187	Girls, 189	Total, 376.
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V.—EXPENDITURE, 1883, 1884.

Normal and Model Schools, Toronto:—

	1883.		1884.
Salaries	\$19,840 00	\$19,702 67
Expenses	4,370 18	....	8,022 55
	<u>\$24,210 18</u>		<u>\$27,725 22</u>

Normal and Model Schools, Ottawa:—

	1883.		1884.
Salaries	\$17,239 98	....	\$17,410 00
Expenses	3,890 24	....	4,467 46
	<u>\$21,130 22</u>		<u>\$21,877 46</u>

Receipts from Fees of Model School Pupils:—

	1883.		1884.
Toronto, at \$2.00 per month	\$7,318 00	....	\$6,588 00
Ottawa, at 1.50 "	5,914 00	....	5,518 75
	<u>\$13,232 00</u>		<u>\$12,106 75</u>

DIVISION III.

COUNTY MODEL SCHOOLS.

REGULATIONS RESPECTING COUNTY MODEL SCHOOLS.

Approved by the Lieutenant Governor in Council, August 14th, 1884.

1. The County Board of Examiners for each county or group of counties shall set apart at least one Public School for the professional training of Third Class Teachers, subject to the approval of the Education Department.

2. The requisites of a County Model School shall be as follows :—

(a) One room in addition to those required for ordinary school purposes, either in the same building or elsewhere, to be provided by the trustees.

(b) Such full and complete equipment as is now required for the fourth form of a Public School.

(c) A Principal holding a First Class Provincial Certificate, with three assistants holding at least Second Class Provincial Certificates.

3. The teachers in training shall attend regularly and punctually during the whole Model School term, and shall be subject to the discipline of the Principal, with an appeal, in case of dispute, to the Chairman of the County Board of Examiners.

4. The Principal shall report at the close of the session the status of each teacher in training, as shown by the daily register.

5. The teachers in training shall be subjected to an examination in practical teaching at the close of the session, and also to a written examination on papers prepared by the Department.

6. In any county where there are two or more Model Schools, the County Board shall assign to each, such number of applicants as the capacity of the school will permit ; and in cases where there may be a deficiency of room in any Model School to accommodate all the applicants, the County Board may give preference of admission to such candidates as have gained the highest number of marks at the non professional examination for Third Class Certificates.

7. Boards of Trustees are authorized by resolution to require a fee of not more than five dollars to be paid by each teacher in training.

8. There shall be one session of thirteen weeks in each Model School during the year, beginning on the second Tuesday in September.

9. Each Model School shall be visited at least once during the session by the Departmental Inspector.

COURSE OF STUDY.

The work of County Model Schools is to give to the student-teachers such an insight into the principles of education and into the theory and practice of teaching as will enable them to organize, govern, and teach a school efficiently. It embraces :—

1. *Principles of Education.*—School organization, management, discipline, methods of instruction, and practice in teaching.

2. *Physiology and Hygiene.*—(a)—Laws of health, temperance, cleanliness, hours for study, rest, recreation, and sleep. (b) Heating and ventilation of the school-room. (c)—Functions of the brain, eye, stomach, heart and lungs.

3. *Music, Drawing and Calisthenics.* It will be impossible in the short term of the Model School to do more than teach the simplest elements of music. However, enough can be done to enable the student teacher to conduct classes in scale notation and in simple songs. In drawing and calisthenics the course prescribed in the Syllabus can easily be mastered. These subjects are not compulsory, but if taken up, due credit will be given for work done in them in awarding certificates.

4. *Review of Non-Professional Work.*—It is very desirable that the students should be required to review and supplement their knowledge of the principal subjects on the Public School curriculum, as composition, grammar, arithmetic and literature. For this purpose the Principal might give a few exercises in these subjects during the term, and by oral or written examinations test the students' knowledge of matter as well as methods of instruction. Literary work should not be entirely divorced from professional training.

5. *School Law.*—A knowledge of school law, so far as it relates to duties of teachers and pupils.

HINTS ON MANAGEMENT.

First Section of Term.—Two Weeks.

I. *Opening of School.*—In opening the Model School the Principal should explain to the teachers the organization and classification of the Public School with which it is connected; the necessity of observing carefully the methods of teaching practised by himself and assistants; the *points* on which they are marked in the Training Register; the importance of careful preparation for each day's work; the necessity of regularity and punctuality, with such other hints in regard to their deportment towards each other, towards the teachers on the staff, and the pupils with whom they come in contact, as may be considered requisite.

II. *Teaching by Principal.*—For the first two weeks of the session the Principal should teach, in the separate room provided for this purpose, those subjects which he intends the student-teachers subsequently to begin with. This is preferable to an introductory course of lectures. In teaching a class as above, the Principal should first lay clearly before the students the plan of the lesson, and illustrate this plan by his method of teaching. He should also require them to take notes of his methods, and in the "criticism" hour these notes will furnish a basis for many practical hints. In this way—say ten lectures—combined with illustrative teaching, may be given on the best method of teaching reading, arithmetic, spelling, and geography to a primary class. During this time the student-teachers should not be required to visit the different departments of the Public School for *observation*, as no person can observe intelligently, or with profit, until he has first some idea of the object to be attained by the teacher.

III. *Teaching by Students.*—The student-teachers having observed and taken notes of the Principal's methods of teaching, are now prepared for actual teaching, as well as for more extended observation elsewhere. It will be well, therefore, during the second two or three weeks of the session to employ them in teaching a class as above, in the separate room used for the purpose, the subjects previously taught in their presence by the Principal.

IV. *Observation.*—The Principal should next prepare the student-teachers for taking observations in the different rooms set apart for training purposes. They should have learned at least by this time that no lesson can be well taught unless both the *matter* of the lesson and the *method* of presenting it to a class have been carefully considered.

The assistant teachers should explain, in the presence of the student teachers, the purpose and plan of the lesson to be taught, before they begin to teach. Attention should also be called to *points* in the progress of the lesson, and the work should be summarized at the close. The student-teachers should not be mere visitors in a room, but should observe *methods* of teaching and *discipline*. They must therefore be taught to observe intelligently.

The following hints on "observation" are suggested :—

1. *Matter.*

(1) Whether suitable to the class; proper amount for one lesson; whether exercising observation, conception, reason or all of these.

(2) Lesson—whether bearing on one point; into what heads divided.

(3) Whether in a lesson involving a moral lesson, the proper applications are made.

2. Method.

- (1) Whether the *purpose* of a lesson was properly outlined at the beginning.
- (2) Whether the connection between the lesson and previous work was shown **when possible.**
- (3) Whether the error of *telling* too much was guarded against.
- (4) Whether good illustrations were used, specimens distributed, and diagrams drawn.
- (5) Whether *appropriate* and *definite* questions were given.
- (6) Whether the blackboard was used, and new terms written upon it.
- (7) Whether errors in answering were thoroughly corrected, and special attention given to pupils who were backward.
- (8) Whether pupils were allowed sufficient time to think.
- (9) Whether the attention of all the class was secured, or of only a *few forward pupils.*
- (10) Whether the lesson was properly summarized.

3. The Class.

- (1) Whether respectful, attentive, interested, and, if so, how secured.
 - (2) Whether pupils seemed weary, if so, why ?
 - (3) Whether likely to carry away the lesson as a whole.
- Each student should be required to enter his daily observations upon a sheet similar in form to that given below :—

Name of assistant teacher.....

Date.....

Subject of lesson.....

Notes by student-teacher as follows :—

.....
.....
.....

.....
Signature of Student.

These “observations” should be submitted to the Principal for consideration during the “criticism hour,” who will find ample material in the notes made, and in the discussion of the more theoretical part of the course, such as “management, discipline, organization,” etc., to occupy all the time at his disposal.

SECOND SECTION OF TERM—THREE WEEKS.

Observation and Class Teaching. During this section of the term, one-half of each day should be spent by the students in the Model School room :—

- 1. In observing class teaching by the Principal.
- 2. In class teaching before the Principal and their fellow-students.
- 3. In criticisms. During the “criticism hour” the students should be required individually to read their notes with reasons, and all should be encouraged to express their opinions freely ; the Principal directing the discussion and closing the criticisms.

During the second half of the day the students should be engaged in observing teaching in the different rooms and in taking notes. In order to secure uniformity and definiteness, the following form is recommended :—

Report of lesson on.....

Taught by

The faults most worthy of notice were :—

1. Your position
2. The plan of lesson.....
-
3. Your management
-
4. Your language was.....
- for instance.....
5. In energy you.....
6. Your mode of questioning was
- for instance.....

Besides the above, other matters worthy of criticism should be reported.

Date..... *Assistant Teacher*.....

The assistant teacher should make entries on the *form* during the progress of the lesson, and at the close hand it to the student-teacher, who should hold himself ready to be criticised on the points noted, by the Principal, whenever necessary. The marks assigned by the assistant teacher for the lesson should be given immediately after the lesson is concluded, and may be communicated to the student teacher, at the option of the Principal. All lessons should be assigned to the student-teachers by the Principal, on consultation with the assistants in whose rooms the lessons are to be taught, and a record kept of each lesson in the Training Register, so as fairly to afford equal practice in every subject in the Public School curriculum.

THIRD SECTION OF TERM—SEVEN WEEKS.

1. *Teaching by Students in the Divisions.* The student-teacher having already seen the Principal teach a number of subjects ; having taught the subjects himself under the direction and criticism of the Principal ; having *observed* how classes are taught by the assistant teachers ; and having some idea of the “matter” and “method” of a lesson, should now be able to take charge of a class in the subjects already illustrated. As preliminary to this step, the lesson to be taught should be assigned the previous day, and thoroughly prepared, the assistant teacher, with whose class the student is entrusted, should leave him as much as possible to his own resources, and should take notes for subsequent entry in the Training Register. Assistant teachers should not be reticent in reporting criticism, particularly if the work has been badly done. The criticism should be *thorough, definite, just and kind.*

2. *Number of Lessons to be taught by Students.*—It is desirable that not less than thirty lessons shall be taught by each student. By the course suggested, at least seven weeks will be available for teaching in the different divisions. Taking twenty students as the average number in a Model School, and allowing one half-hour lesson per day to each student, we have ten hours per day for teaching by the student. Taking four divisions as the number used for Model School purposes, with a senior and junior section in each division, we have eight classes for ten hours of teaching, or an average of one hour and a quarter for each class during each day for seven weeks. When the number of students exceeds twenty, more than four divisions should be used if possible. The students should be properly distributed among the different rooms, and while one teaches, the others will observe and take notes. Lessons by students should not immediately follow each other. It is also strongly recommended that the students assigned to a division should remain a week in one room. By this means the corrections made by the assistant teachers will be more effective, the students and the pupils will become better acquainted, there will be less change, and consequently the regular work of the division will be less disturbed.

FOURTH SECTION OF TERM—ONE WEEK.

Review and Examination.—Students should not be required to do any school work during this week, but should be allowed to review the work of the term.

SYLLABUS OF LECTURES.

Opening Lecture by the Public School Inspector.

It is very desirable that the Inspector should be present at the opening of the Model School and address the students. In his address the following should be considered :

- (1) The importance of the teacher's work in the school room and in the school section.
- (2) His opportunities for doing good.
- (3) The need of giving proper attention to his health.
- (4) The need of availing himself of every means whereby he may rise in his profession.
- (5) Proper attention to the instructions given by the Principal of the Model School and by the assistants.
- (6) Careful attention to teaching witnessed by students.
- (7) Proper deportment during the session.
- (8) Preparation of lessons assigned.
- (9) Necessity for continuing his professional reading.
- (10) Reward of the faithful teacher.

LECTURE I.

Characteristics of a Good Teacher.

1. *Mental Characteristics.*—1. Professional spirit.—2. Sympathy.—3. Tact.—4. Earnestness.—5. Energy (not demonstrative).—6. Enthusiasm.—7. Hopefulness.—8. Patience.—9. Watchfulness.—10. Definiteness.—11. Thoroughness.
2. *Characteristics of Manner.*—1. Quietness.—2. Cheerfulness.—3. Calmness.—4. Self-possession.—5. Uniformity of temper.—6. Politeness.—7. Kindness.
3. *Habits.*—1. Speaking in a low tone.—2. Orderliness.—3. Punctuality.—4. Cleanliness.—5. Neatness.

LECTURE II.

Primary Reading.

I. There are two steps in learning to read well :—

- (a) Word recognition.
- (b) Expressive reading.

II. *Methods of teaching reading.*—1. Expressive reading can only be taught to junior pupils by giving them good examples for imitation. It should be taught to senior pupils by giving them proper rules for pausing, emphasis, inflection, etc.

2. Word recognition may be taught by either of the following methods :—

- (a) The alphabetic, or naming method.
- (b) The word, or "Look and Say" method.
- (c) The phonetic method.
- (d) The phonic method.

3. The alphabetic method has been generally discarded, because in most cases the names of the letters in a word are in no sense suggestive of the sound of the word itself. The only plea urged for its use is that it teaches spelling, by compelling pupils to spel

words before naming them. It does this only to a limited extent, and in direct opposition to the recognized rule that spelling should be taught by reading, instead of trying to teach reading by spelling.

4. The phonetic method requires a new alphabet with a letter to represent each sound in the language, and is therefore impracticable with our present alphabet.

5. The word, or "look and say" method gives the name of the whole word to the pupils. The objections to its use are:—

(a) It depends too much on the memory,

(b) It does not make the pupils do independent work soon enough.

(c) The pupils can make very little, if any, use of knowledge already gained in acquiring more.

(d) It makes the pupil a receptive rather than a constructive agent.

(e) It does not compel such scrutinizing inspection of words as to lead to correct spelling.

6. If the English alphabet had but one sound for each letter and only one letter to represent each sound, the phonic method alone would be the best plan for teaching children to recognize new words. It gives the pupil the sound of the letters and trains him, first, to combine these sounds to form words; and secondly, to recognize new words by sounding the letters which form them.

7. To avoid the mental confusion of children, teachers should use a perfectly self-consistent alphabet, with only one sound for each letter, during the first five or six weeks of a child's experience in learning to read. By using the short sounds only of the vowels a very large number of words may be formed.

8. The Phonic, combined with the word method, will be found to lead to the best results in teaching word-recognition.

III. *General Suggestions*.—1. Use slates and the black-board in teaching reading from the beginning.

2. Let the pupils write script from the first.

3. Teach the sounds of letters only as they are used. It is a great mistake to teach the alphabet as a whole, either by names or sounds, before putting these to a practical use.

4. Pupils should not be allowed to try to read a sentence until they know all the words it contains.

5. Simultaneous reading should only be allowed when the pupils are imitating the teacher, or when they are reciting something that has been committed to memory.

6. Bright pupils are certain to engross most of the teacher's attention so long as they are in the class. Dull pupils should get most teaching. In order to secure this result, when the new work of a lesson has been taught, give review test words or sentences, and let those who read them first go to their seats and work there.

7. Backward pupils rely on those more advanced to lead them, and it is of the utmost importance that they should be compelled to make independent efforts. It is therefore very much better to let the pupils whisper the new words or sentences to the teacher after he has written them on the black-board.

8. Pupils should be required to do a great deal of word-building. The following are illustrations of an infinite variety of problems which may be assigned to them:—

(a) When they know the sounds of at, in, ing, on, etc., let them make as many new words as possible by prefixing letters to them.

(b) Give them two consonants, one for the beginning and the other for the end of a series of words, and let them form words by writing vowels between them.

(c) Give a single consonant, and let the pupils form as many words as they can, beginning or ending with it, and containing the number of letters fixed by the teacher.

(d) Write a certain number of letters on the black-board and let the pupils form as many words as possible by using only these letters.

(e) If the word method be used, it is a good plan to set the pupils to count at their seats how often certain words occur on a certain number of pages.

9. Lessons in reading to primary classes should be brief and lively. Two fifteen minute lessons are much better than one lasting half an hour.

10. Vary the method of conducting the lessons as much as possible.

11. In order to correct or prevent the habit of sounding "a" and "the" separate from the words following them, let the pupils first use them in speaking of some object held by the teacher. He holds up a book, for instance, and the pupils say correctly and naturally "a book," or "the book." They will do so without fail. Then these words should be written on the black-board, and repeated by the class, the teacher pointing alternately to the object and to the written words. It is also a good plan to join such words, as well as adjuncts, by bracketing them when they are written on the black-board.

LECTURE III.

Language Lessons.

This subject should form a part of the every-day work in the school-room. It should precede the study of grammar.

Correct forms of speech must be placed before the pupils.

Induce pupils to speak freely.

Talk *with* them rather than *to* them.

Order of teaching.—1. Place some familiar object, as a chair, before the class.

2. Ask pupils to name the object, and tell its use.

3. To name its parts.

4. To describe the different parts, or tell something about them.

5. To tell the use of the different parts, etc.

Hints.—1. Require answers in the form of a sentence.

2. Do not criticize answers.

3. Give correct form, write it on the board, and require class to repeat several times.

4. If pupils cannot form correct sentences, aid them by suitable questions.

5. Endeavour to form correct ideas in the pupils' minds, and then require these ideas to be properly expressed.

6. Take subjects with which the pupils are familiar.

7. In receiving oral answers distinct articulation and correct pronunciation should be required.

8. Answers should frequently be written on the slate.

9. In written answers proper attention should be given to capitals, periods and interrogation marks.

Subjects for lessons.—The different objects in the school-room. Colour, form, size, weight, etc. Animals, plants and minerals.

Specimens or pictures should always be placed before the class.

LECTURE IV.

Composition.

Primary Objects.—1. Correct and free use of language.

2. Correction of common errors of speech.

3. To increase the pupil's knowledge and use of words.

4. Variety of expression.

5. Cultivation of observation, perception, memory, and imagination.

Cautions.—1. Ideas must precede words.

2. Objects and subjects must be furnished to evoke the various powers of the mind, and the pupil must be taught how to accumulate, arrange, and express his ideas connected with them, and finally how to criticize the whole.

3. First exercises must be very simple and constantly repeated

4. They must be carefully graded.

5. Errors must be corrected, but not criticized at first.

6. Do not expect too much.

The following outline of lessons is suggested.

First Class.—1. Elementary language lessons in this class will serve as preparatory work for the teaching of oral and written compositions.

2. Correction of colloquial errors.

Second Class.—1. Systematic drill in the correction of colloquial errors; no reasons should be given.

2. Oral and written descriptions of actions and of objects.

3. Recital of the story in the reading lesson by paragraphs, and as a whole.

4. Letter-writing of the simplest kind, giving special attention to form of opening and closing.

Third Class.—1. Correction of colloquial errors continued.

2. Continual training in polite, courteous forms of speech.

3. Elliptical exercises to teach the correct use of saw, seen, did, done, went, gone, etc.

4. Oral and written reproduction of short stories, and subject of reading lessons.

5. Letter-writing.

6. Simple business forms, accounts, and receipts, separate and combined, order for goods, order for money, promissory note, negotiable and non-negotiable.

Fourth Class.—1. Elliptical exercises to teach the correct use of such words as may, can, shall, will, would, should, lie, lay, laid, rise, raise, come, came, sit, sat, set, etc.

2. Oral and written reproductions of stories and lessons on animals and plants.

3. Transposition of stanzas of poetry in prose.

4. Biographical and historical sketches, oral and in writing.

5. Letter-writing.

6. Business forms, notes payable on demand, at bank, joint, and several, with and without interest, drafts payable at sight, at time after sight, at time after date, etc.

Fifth Class.—1. Changing passages from the direct to the indirect order, and from the grammatical to the rhetorical order, and *vice versa*. (See Morrison, pp. 75 to 87.)

2. Elliptical exercises. Morrison, pp. 88–91.

3. Analytic and synthetic exercises in narrative composition. Morrison, pp. 111–127.

4. Abstracts of reading lessons.

5. Paraphrasing.

6. Business correspondence.

LECTURE V.

Grammar.

1. Develop a sentence on black-board.

2. Develop the idea of *subject* and *predicate*.

3. Teach the use of words and of phrases in the sentence.

4. Group words and phrases around subject and predicate. (Slate exercise.)

5. Classification of words according to use in sentence.

6. Names of these classes, *i. e.*, of the parts of speech.

7. Definitions of do.

8. Sub-divisions and inflections of do, in the same order:—*example, use, comparison* with others, *classification, name, definition, or rule*.

No analysis of a sentence should be attempted until the teacher is certain the pupils understand the meaning of the sentence as a whole, and of all the words and phrases. The analysis of complex sentences should be developed from simple sentences, and pupils should be required to change a complex sentence into a simple sentence and *vice versa*. Great care should be taken to guard against merely mechanical analysis.

LECTURE VI.

Spelling.

I. *How Spelling is Learned.*—1. Pupils learn to spell through the eye.

2. Correct spelling depends upon seeing with precision.

3. Spelling is learned through reading.

4. The ear may aid in spelling words spelled phonetically, but the eye alone is the best means of learning to spell. (Deaf mutes spell accurately.)

II. *How Spelling is Taught.*—1. As correct spelling depends on accurate seeing, the great aim of the teacher should be to train the pupils to look definitely at all parts of the words.

2. Young pupils should copy largely from primers and from the black-board.

3. Transcription is the best means for committing a spelling lesson to memory, as it compels the most careful and scrutinizing examination of the words.

4. Pupils should never see words incorrectly spelled.

III. *Testing Spelling Classes.*—1. There are two methods, oral and written. (Although spelling has to be learned through the eye, a knowledge of spelling may be shown orally).

2. As spelling has to be used practically by writing words, it is undoubtedly best to test spelling classes by making them write the lessons assigned.

3. Writing a word impresses its form much more than spelling it orally.

IV. *Examining Spelling Lessons.*—1. In review lessons and in small classes the teachers should correct the lessons.

2. Pupils may exchange slates, and mark the words wrongly spelled, the teacher spelling the words slowly.

3. Pupils may retain their own slates, and the teacher may call on different pupils to spell the words orally. Those who agree with the spelling given must indicate this by raising their hands before the teacher decides as to its correctness.

4. Slates may be exchanged and the corrections made as in No. 3.

5. While the teacher writes the correct spelling on the black-board, each pupil may correct his own work, and slates or books will then be exchanged for revision only.

NOTE.—In all cases when slates are exchanged the pupil owning the slate should have the right to appeal against the marking done by his neighbour.

V. *Correcting Errors.*—1. Each pupil should write the words he misses five times to impress their correct forms on his memory.

2. It is better that he should write these words once a day for five days than five times on the same day.

3. He should keep a list of his errors at the end of his dictation book, and copy it occasionally.

4. From these lists the teacher should prepare review lessons.

VI. *General Suggestions.*—1. The teacher should articulate clearly and pronounce correctly when giving words for spelling.

2. Only one trial should be allowed in oral spelling.

3. In oral spelling the divisions into syllables should be marked by a slight pause.

4. Spelling should be taught to a considerable extent by means of composition, in order to give pupils practice in spelling their own vocabularies.

LECTURE VII.

Elementary Arithmetic.

PRELIMINARY REMARKS.

1. Arithmetic is taught for the sake of its (a) value in discipline, (b) value as knowledge, *i. e.*, its utility in the affairs of life.

2. To secure these VALUES as thoroughly as possible, all arithmetical study is to be a training in thinking; all *merely* mechanical work is to be banished. There must indeed be mechanical drill, but this must be founded on *intuitions* (from material objects).

3. For this training in thinking, *systematic* training in Mental Arithmetic, from first to last, is absolutely indispensable; and, therefore, so far as Arithmetic is concerned, the principal task of the teacher in the Public School is to practise the children in Mental Arithmetic.

4. At each and every stage Mental Arithmetic must precede, and lead up to Written Arithmetic.

5. In every stage abstract and applied calculations are to go together; *e. g.*, when a pupil has learned (say) through intuition the combinations of *five*, he is to be practised in "practical problems," involving familiar things of life.

6. In mental work, rapidity, correct language, and logical order of thought and statement must be constantly aimed at.

7. In Mental Arithmetic it is desirable that the teacher should follow the sequence of some book. Otherwise the "course" is likely to be without logical method; desultory problems are of but little use in mental training. At the outset children need no book: when they have advanced to division, and its applications ("analysis"), they may prepare assigned lessons in some text-book. But a book supplies only *type questions*: many similar questions should be framed by teacher and pupils.

8. In Mental Arithmetic there should be frequent *written examinations*, as well as oral.

A.—First Stage.

1. The numbers 1 to 10, inclusive, taught *intuitively* by NUMBER-PICTURES and by counting—these "pictures" being presented through (*a*) dots or points on blackboard, slate, etc., (*b*) arrangement of balls of abacus, (*c*) arrangement of *cubes*, etc., used as counters. *Picture-Numbers* are to be used because the *intuition* of a number of objects in a group is comparatively easy if there is a *symmetrical* arrangement, *e. g.*, the conception of *five* is easier from *this* arrangement

* * * * * * *

2. On the principle which underlies the law of repetition, it will in general be well to make more than one presentation of a

* * * * *

Number-Picture, *e. g.*, of *five*:— * * * , * , * * , * *

* * * * *

3. Practice is to be had in *all the combinations* of the several numbers (*see table below*); and every number is to be mastered before the next number is taken up. This means (*a*) the *addition* of pairs of numbers, by Number-Pictures in various ways (*see above*), and by "practical problems," (*b*) subtraction or the resolution of numbers into pairs by similar means, (*c*) the multiplication and division (exact) of pairs, as *e. g.*, three times two are six; the twos in six are three.

NOTE.—(*c*) May be left till the combinations of 20 are learned. PRACTISE IN COUNTING BACKWARD AND FORWARD.

4. Practise in the corresponding written exercises as soon as the children have mastered the mental processes.

NOTE.—The above points are to be kept in view in teaching *every number* and its combinations and partitions till *ten* has been well mastered.

B.—Second Stage.

The numbers 11 to 20, inclusive, to be taught intuitively, all the steps given in the first stage being followed. This includes especially

(1) Practice in the addition of two numbers whose sum is not greater than twenty; see table given below. Practical problems as before.

(2) Subtraction. Practical problems.

(3) The multiplication and division of numbers within the above-named limits. This practice means

(*a*) The *multiplication table* of numbers from 1 to 20; this supposes (as before) much "drill," but drill grounded on intuitions.

(*b*) *Division* of the products obtained in (*a*) by an abstract divisor; (*b*) division in the sense of distribution, the converse of the operation in (*a*); in (*a*) the factors are given and the product is to be found; in (*b*) the product is given and the factors are to be found. It cannot be too often repeated that these processes are to be rendered *VISIBLE*—there must be intuitions through number-pictures.

(c) Measurement of the products of the *multiplication table*, i.e., division in the sense of being contained in ; e.g., 2 is contained in 4, 6, 8, etc.

(4) Practice in the corresponding written exercises as soon as the children have mastered the processes mentally.

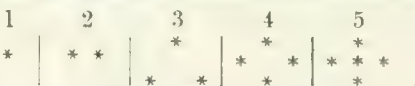
The following table, which exhibits all combinations of numbers from 1 to 20, shews substantially the work to be done in these two stages, and is fundamentally the basis of all combinations.

TABLE OF COMBINATIONS ON NUMBERS FROM 1 TO 20.

1	2	3	4	5	6	7	8	9	10
1	1+1	2+1 1+2	3+1 2+2 1+3	4+1 3+2 2+3 1+4	5+1 4+2 3+3 2+4 1+5	6+1 5+2 4+3 3+4 2+5 1+6	7+1 6+2 5+3 4+4 3+5 2+6 1+7	8+1 7+2 6+3 5+4 4+5 3+6 2+7 1+8	9+1 8+2 7+3 6+4 5+5 4+6 3+7 2+8 1+9
11	12	13	14	15	16	17	18	19	20
10+1 9+2 8+3 7+4 6+5 5+6 4+7 3+8 2+9 1+10	10+2 9+3 8+4 7+5 6+6 5+7 4+8 3+9 2+10	10+3 9+4 8+5 7+6 6+7 5+8 4+9 3+10	10+4 9+5 8+6 7+7 6+8 5+9 4+10	10+5 9+6 8+7 7+8 6+9 5+10	10+6 9+7 8+8 7+9 6+10	10+7 9+8 8+9 7+10	10+8 9+9 8+10	10+9 9+10	10+10

1. The upper part of the table gives the combinations of the numbers to ten inclusive ; the lower part, the combinations of the numbers from 11 to 20 inclusive. The ways of forming 5 are:—4 and 1, 3 and 2, 2 and 3, 1 and 4. In all there are 100 combinations, and no more.

2. Each of these combinations is to be visibly represented by NUMBER-PICTURES, as suggested in (A, 1). Each picture will be formed from the immediately preceding one by the addition of a single point, and will be made up of elements previously mastered, e. g.



3. As already suggested, slightly different pictures of the same number will be given, e. g.:—for 3, * * * ; for 4, * * * * ; for 5, * * * * * ; etc.

From 5 * * * * , we get 6—* * * * * ; from 6 we get 7—* * * * * , etc.

4. (a) This table includes the usual forms:—1 plus 2, 3, 4, etc. ; 2 plus 1, 2, 3, etc. ; 3 plus 1, 2, 3, etc.

(b) It is applicable to the higher combinations of numbers, e. g., take those of 5 ; 4 + 1 leads to 14 + 1, 24 + 1, etc. ; 2 + 3 leads to 2 + 13, 2 + 23, 2 + 33, etc.

NOTE.—Call attention to the fact that *thirteen* is three-teen, i. e., 3 and ten ; *fourteen*, 4 and ten, etc.

C.—Third Stage.

1. The genesis of numbers from 1 to 100, inclusive—the method of intuitions being followed as in the preceding stages.

2. Make the pupil familiar with combinations of *tens* as *units* ; e. g., as in the combinations of five, 4 tens + 1 ten ; this by visible and tangible objects. Call attention to the fact that thirty is 3 tens ; forty is four-ty, i. e., 4 tens, etc.

3. teach the *intermediate* numbers, e. g., 21 = 2 tens + 1 ; 22 = 2 tens + 2, etc. ; 31 = 3 tens + 1, 32 = 3 tens + 2. Give practice in counting backwards and forwards. Give notation and numeration to 100, inclusive.

4. Give practice in the addition of a number of one digit to one of two digits ; the

higher number to be exhibited as so many *tens* and *units*. Form *series* of numbers, *e. g.*, give two or three terms, and have the children continue the series, as 12, 14, 16, etc.; 9, 12, 15, etc.; 21, 25, 29, etc.

5. Practice in the subtraction of a number of *one* digit from one of *two* digits. As in the preceding exercises, *intuition* is necessary, especially in such cases as 43—7, 62—9, etc.

6. Practise the multiplication table till the pupils have obtained a ready knowledge of it, but, in *every instance* give *by intuition a clear insight into the meaning of each combination*: *e. g.*, the meaning of 4 times 7 is 28, must be made perfectly clear by means of the "ball-frame," etc. But this *clear insight* being had, drill till the children can give the combinations with scarcely an effort of thought.

In written work the order should be (a) multiplication by a number of one digit; (b) do, by 10; (c) do, by a multiple of 10 (d) do, by a number formed of units and tens.

8. Give practice in the division of the products of the multiplication table (as in Stage B, 1 b), (a), by an abstract divisor, *i. e.*, division in the sense of distribution; and (b), measurements of the *products*, *i. e.*, division in the sense of *being contained in*. In written work the order will be (a), division by a number of one digit; (b) by 10; (c), by a multiple of 10; (d), by a number consisting of *tens* and *units*.

8. The children are now prepared to deal formally with (a), the factors of a number; (b), the factors common to two or more numbers; (c), the G., C., F., of do; and (a) with the multiples of a number; (b), a multiple of two or more numbers, and (c), the L. C. M. of two or more numbers.

The course of work above exhibited shews, in the main, the whole course of instruction in elementary arithmetic, and constitutes the basis of all subsequent work. Unless, therefore, the work outlined has been thoroughly mastered, subsequent progress will be uncertain and unsatisfactory.

D.—Fourth Stage.

This stage is mainly a continuation of the preceding stages, which cover the ground of the first seven sections of Mental Arithmetic, Pt. I. Details, therefore, are not necessary. A few hints may be noted.

1. Children must understand the value of numbers before they use them. This is the fundamental principle in the preceding stages, in which intuition has the first place. In Stage D. when intuition is no longer expedient, the numbers should be clearly analyzed into *hundreds*, *tens* and *units*, etc.

2. In written work with larger numbers *i. e.*, numbers too large for mental operations, note the following points:—

(a) Avoid working with *very large* numbers. Don't waste nervous force in drudgery. Long mechanical operations, especially of multiplication with large *factors*, have little practical value. Who needs to multiply millions by millions, or even hundreds of thousands? Instead of questions involving hosts of figures, give many questions of moderate length, and aim at *accuracy* and *rapidity*.

(b) To prevent mere mechanical drudgery, and to awaken the interest which grows out of *intelligence*, every process must be thoroughly explained.

(c) As already implied, in mental work insist on good language and logical and concise order of statement; in written work aim at *neatness*, *accuracy*, *rapidity*.

(d) Some of the tables of weights, measures and money will of course be mastered, and use made of them in "Practical Problems."

E.—Fifth Stage.—Fractional Arithmetic.

I. Vulgar; II. Decimal.

NOTE.—Vulgar fractions form a principal subject in Mental Arithmetic. Both from common experience and from operations in the preceding stages, the children have become familiar with some of the ideas and nomenclature of Fractional Arithmetic. The formal and systematic instruction is now to begin. Give the notation as soon as the conceptions are clearly gained.

1. Begin with the now familiar idea of the *division* of a **NUMBER** into *equal parts*, the underlying principal in all teaching of fractions. Show, *e. g.*, that to divide 6 by 3 is to obtain one of the 3 equal parts that compose 6. Show that "to take *one-third* of 6"

s the same as "to divide 6 by three;" there is a change of *name*, but no change of *idea* or of *operation*. Give practice in finding $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{6}$, etc., of a number.

2. Lead to the facts that a number has *two halves*, *three thirds*, *four fourths*, etc.

3. The children have already learned that *twice* one unit of *any kind*, is *two* units of the *same kind*; three times one unit of *any kind* is three units of the same kind, etc. They are, therefore, now prepared to find $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{5}$, etc., of a number; *e.g.*, they find *one-third* of 6 to be 2, and therefore *two-thirds* of 6 to be 4.

4. Lead to the fact that thus to take (*e.g.*) $\frac{3}{4}$ of a number is the same as to take one-quarter of three times the number, *i.e.*, to *divide* 3 times the number by 4. Lead to the facts that 3 lbs. divided by 4 is 12 ounces, etc.

5. Show that $\frac{1}{2}$ of a number $= \frac{2}{4}$ of it $= \frac{3}{6}$ of it; that $\frac{1}{3}$ of a number $= \frac{2}{6}$ of it, etc.; and that $\frac{1}{4}$ of a number $= \frac{1}{2}$ of it, etc.

6. Now proceed to show that not only a *number* but also a *single thing* may be divided *into equal parts*. Base the instruction on intuitions, by a divided line, rectangle, or other concrete object. Apply the ideas developed in 2, 3, 4, 5, above.

7. Show (a) how to change whole numbers into the form of a fraction; (b) how *mixed* division gives rise to a mixed number; and (c) *conversely* how a mixed number may be changed into an indicated division, *i.e.*, an "improper fraction."

8. Use ideas of 5, above, to show how to change fractions with different denominators into fractions having a "common denominator."

9. Addition and subtraction.

10. Multiplication and division.

For methods and type-questions, see chapter on fractions in Mental Arithmetic.

II.—DECIMAL FRACTIONS.

The Teaching in Decimal Fractions follows the order observed in vulgar fractions, so that every "rule" in decimals finds its explanation and demonstration in the corresponding rule in vulgar fractions. Guard against the rule-of-thumb work; explain every process.

NOTE.—While special stress has been laid on the necessity of beginning with intuitions for the acquisition and development of the first conceptions in the several stages, it is very desirable that the pupils should pass as soon as possible to the abstract and the general.

F.—Sixth Stage.

Application of the foregoing to analysis and to "Commercial Arithmetic."

The unitary method, which has been followed in the simple analysis of the previous stages, is to be followed here. It is to be applied to

1. Solution of "Rule of Three," problems.
2. " Simple Interest.
3. " Profit and Loss in all its "cases."
4. Other percentage problems.
5. Proportional parts and partnership.
6. Averages.
7. General analysis.

For methods and type questions under these heads see Mental Arithmetic Part II., and last chapter of Part I.

NOTE.—In this stage the fundamental principles of ratio and proportion, with applications, may be given.

LECTURE VIII.

Geography.

PART I.

1. *Introductory lessons on place, to explain.*—1. Use of, on, around, above, below, beneath, under, etc.
2. Use of terms right, left, middle, centre, corner, etc.
3. Necessity for a standard of distance using:—
(a) Measurements in the school-room, inch, foot, yard.

(b) Representations on a scale of the top of the desk or table with the places of a few objects marked.

These lessons will prepare pupils for use of maps.

II. *Lessons on animals and plants.*—1. That live on land, in water, fly through the air.

2. That live in hot parts of the earth, in cold parts, in forests, in deserts, in plains, on mountains.

III. *Stories and reading lessons about people who live in other countries.*—1. what kind of homes ; what they wear, what they eat, what they do, etc.

IV.—*General knowledge to be gained from observation.*—1. Of land and water, and uses of each.

2. Of air—all around.

3. Of sun, moon and stars, light and heat.

4. Of division of time, hour, day, week, day, night, etc.

5. Of divisions of seasons, spring, summer, etc.

6. Of the terms circle, diameter, circumference, sphere, hemisphere (to be learned from drawing and form lessons).

PART II.

I. *Lead pupils by suitable illustrations to a conception of the earth.*—Great ball, moving in the air, around the sun, lighted by sun, surface of land and water, shape, flat appearance, size, motions and results, axis, poles, equator.

II. *By means of maps and blackboard drawings teach natural features of the earth's surface.*—1. Begin with most striking.

2. Observe, describe, name :

(a) Forms of land, coast or shore, continent, island, etc.

(b) Forms of water, ocean, sea, gulf, etc.

III. *General topography of earth's surface, with special reference to continents and oceans.*—Their positions, relative sizes, boundaries, etc. ; using map of the world.

PART III.

I. *Principal land and water forms and political divisions of a single continent.*—

1. Blackboard chiefly to be used, maps for reference.

2. Pupils reproduce on slates or blackboard.

3. Pupils draw on slates from maps placed before them.

4. New names to be written upon the board and copied by pupils.

PART IV.

I. *Physical features.*—(a) Water-basins, general shape, outlet, etc.

(b) Mountains or ridges which bound them.

1. Climate of different parts, and how affected.

2. Character of different animals, including man, as affected by climate.

3. Different plants as affected by climate.

4. Minerals, where found and why.

5. Occupations of the people in different parts, and why.

6. Exports and imports.

7. Language, religion and form of government.

8. Manufacturing and commercial centres.

The political divisions may next be taken up. Other continents in the same way.

LECTURE IX.

Object Lessons.

I. *Aims.*—1. The *primary* aim is to develop all the child's faculties by employing them properly in gaining knowledge. The ability to acquire knowledge is better than the possession of knowledge.

The *secondary* aims are :

- (a) To correct, extend and apply the child's vocabulary.
- (b) To give the child additional knowledge.

NOTE.—Knowledge must not be given to children ready-made. One of the most common blunders is to regard object lessons as mere information lessons. Knowledge should be communicated incidentally in object teaching.

11. *Method of Teaching Object Lessons.*—1. It is absolutely essential that every pupil shall investigate independently.

2. Every pupil should have a specimen, if possible.

3. As soon as possible (say in the Senior First Book classes), each pupil should write down the results of his investigations.

4. The teacher should guide the class in making their investigations, by asking such questions as :—

(a) What can you learn by looking at this object ? by feeling it ? by smelling it ? etc., etc., thus giving a training in the intelligent use of the means of acquiring knowledge, or :—

(b) By writing a scheme on the blackboard, such as :—

Examine your object and tell me its form, size, color, weight, etc., etc. This gives a training in the systematic classification of knowledge.

With complex objects, insects, leaves, etc., attention should be directed to one part at a time.

5. In lessons on form, direction, etc., the pupils should draw the forms and lines. Making a perpendicular line once will impress its character on the mind of the pupils more definitely than ten repetitions of a definition.

6. Drawing should be *very largely* used by the pupils in describing the parts of objects in Natural History and Botany. To draw a thing the child must examine it with scrutinizing care.

7. It is a great mistake to think that showing an object to a class and giving some interesting facts relating to its origin, manufacture, etc., is teaching an "object lesson." General information lessons are good, but they are no more like genuine object lessons than reading lessons are.

8. Insist on full statements from the pupils in answering. It is more important in object lessons than in any other subject.

9. Advancement should be made *very slowly* in an object lesson. Investigations with a view to discovery must be made slowly even by experienced adults. Accuracy and not speed should be the aim.

10. While the great aim of object teaching undoubtedly is to strengthen the observant faculties, the faculties that use knowledge should be developed as well as those that gain knowledge. Comparison, judgment, memory, language, and the power to make a practical application of knowledge should be developed gradually from the first lesson.

11. Many teachers err by trying to lead their pupils to discover things outside their stage of mental development.

12. When any quality, or form, or power has been discovered by the pupils as belonging to the object under examination, let the range of its application be extended at once, by calling on the class for the names of other things possessing the same quality, form, power, etc.

13. It is necessary to distinguish very clearly between object teaching and object illustration. In object teaching, the object itself is studied ; in object illustration, the object represents something else. An apple may be used to illustrate the meaning of a fraction, and then it is merely representative of a unit or its parts. As the subject of an object lesson, the apple is studied as to its form, parts, construction, etc. ; where the seeds are situated, how they are protected, why they are so protected, etc., etc.

NOTE. True object teaching should not be confined to "object lessons."

14. It is an excellent practice to assign an object for home study occasionally. The results of the children's investigations should of course be reported on paper.

15. One of the simplest methods for inducing young children to study nature in her processes as well as her results, is to place peas or other seeds in a glass containing water, so that the students may watch the stages of growth.

LECTURE X.

History.

I. — *Aims in Teaching History.* — 1. To show the nature and value of historical knowledge.

2. To guide pupils in finding its treasures.

II. *Method of Teaching History.* — 1. Topical better than chronological.

2. Classify events in connection with the great departments of national life instead of associating them merely with the reigns of monarchs.

3. Topics: Dr. Arnold suggests, "race, language, institutions and religion." The history of most countries may be subdivided into (*a*) wars, civil and foreign; (*b*) the constitution; (*c*) the church; (*d*) progress of the people, commercially, socially, educationally; (*e*) literature; (*f*) notable people.

III. *Plan of Teaching History.* — 1. In one lesson give a general sketch of the whole history to be taught, and divide it into its great development periods, fixing the date of the commencement of each period.

2. Teach the history of each period, beginning with the first.

3. Teach independently the events connected with each topic.

4. Sketch the history connected with each topic successively through all the periods, after having taught each period independently.

5. Show the advantages of this plan (*a*) in giving connected ideas regarding the progress made in each department of national life, (*b*) in facilitating the remembrance of historical facts in their relation to their effects; and (*c*) in affording natural and incidental reviews of the history already taught.

IV. *Training Pupils to Study History.* — 1. This is the most important of the teacher's duties in dealing with this subject. History should be learned chiefly after school life has ended.

2. Assigning lessons wisely is the means for training to study.

3. Do not assign *answers* (notes) to be committed to memory.

4. Assign *questions*, and let pupils prepare answers by reading their histories.

5. All questions should not relate merely to isolated facts or dates.

6. They should compel a comparison of facts and exercise the pupils' judgment.

7. A good outline or plan of the lesson is better than questions for advanced classes.

V. *General Suggestions.* — 1. Chronology is not history.

2. Epoch men and women should receive a large share of attention.

3. Striking scenes and great events should be vividly pictured to awaken interest.

4. Pupils should write historical abstracts and biographical sketches for compositions.

LECTURE XI.

Writing.

The following method is recommended:—

I. Illustrate on the blackboard—

(*a*) The formation of the elements or formative lines entering into any letter, and the mode of combining these lines either angularly or by shorter turns.

(*b*) The slant of the *main* and the *connecting* lines.

(*c*) The relative width of each letter and of its parts.

(*d*) The relative height of the different letters, viz:—*body*, *stem* and *loop* letters.

II. Make a well-formed letter upon the blackboard as a type or model, and then make a number of imperfectly formed ones, intended to illustrate anticipated faults. Ask pupils to point out faults as to shape of elements; junction of parts; width between parts or between letters; relative height or length of parts. Ask pupils to suggest the mode of correction; pupils failing, teacher should give the necessary aid and show them how to avoid similar errors.

III. Teach pupils how to combine (a) several letters of the same kind ; (b) several letters of different kinds ; and pupils to observe the horizontal space occupied by each letter when thus combined. Impress the subject of letter spacing upon the mind by a lively concert drill, several pupils writing on black board while the others are writing on slates or on paper.

IV. Let each letter be introduced by a criticism of the faults seen in letters occurring in the lesson, made then and there, either by teacher or by a few pupils.

V. The order in which the small letters should be taught is somewhat as follows:—

(a) *t, u, w, v, m, n, l,*

(b) *c, e, o, d, i,*

(c) *a, g, q, b, p,*

(d) *f, h, k, s, j, y,*

VI. Pay due attention to position of body, pen and paper while writing, and let each copy or writing lesson be supplemented with suitable exercises on practice-paper to secure freedom of execution.

MUSIC.

Follow the course indicated in the Teachers' Manual in the First Reader of the Normal Music Course.

Teach the students as a class of children, supposing them to know nothing of the subject.

Spend four to six lessons on the work suggested on pages V. and VI., before taking up "Singing at Sight."

Continue weekly practice of breathing exercises throughout the term.

Do not try to teach the students *all* the songs and exercises. Select a few in each key, then proceed to the next, so that a general idea of all the work in the First Reader may be obtained in the necessarily limited time.

In nearly all classes of adults beginning the study of vocal music some will be found who have defective voices, or very little sense of pitch. In these cases the teacher should encourage the student to not only enter heartily into the work but make an effort by special practice to overcome the difficulty.

During the first part of the term it will be advisable to occasionally give short lessons, in the presence of the students, to classes of children from the Model School. This is desirable for the purpose of demonstrating the practicability of the system, and to show how interesting the study of music may be made to children.

Two months should be sufficient to go over the work contained in the First Reader.

The remainder of the session should be devoted to practice lessons by the student, criticism on such lessons, and a short review.

DRILL AND CALISTHENICS.

- I. *Benefits.*—1. To the health.
2. To the figure.
3. Improved carriage.
4. Aid in discipline.

11. *Rules for Teaching*.—1. Apply the same principles as in teaching any other subject.

2. Objective illustration is better than verbal and a few real explanations.

3. Repeating the words of a drill book to a class is no better teaching than repeating the words of a grammar would be.

4. Study the words carefully to learn precisely what the movements are, but teach chiefly by action and not by words.

5. When you have done one step of a motion or exercise before the pupils, question them closely about what you have done, before they attempt to imitate you.

6. Do or describe only one step in a motion or exercise at a time, and do not pass on until that step has been performed correctly.

7. It is of paramount importance that errors should be carefully corrected; absolute accuracy at the beginning will save much trouble afterwards.

8. Errors may best be corrected by doing the motion in both the right and the wrong way, and asking the pupils to describe the difference between them.

9. Be prompt, decided and energetic in conducting drill and calisthenic exercises.

10. Speak in a loud tone, but not in a high key, in giving commands.

11. It is of great importance to be accurate and uniform in giving the words of command.

All light calisthenic exercises should be done in time with singing.

DRAWING.

I. *Kind*.—Industrial.

II. *Advantages*.—1. Cultivation of the taste.

2. Training of the hand.

3. Training of the mental powers, observation, comparison, etc.

4. Practical utility in every walk of life.

III. *How to begin to teach drawing*.—1. Begin with the principles of *symmetry*, and teach them *objectively*.

2. This may be done analytically or synthetically; analytically by showing a small piece of old cloth or carpet, and allowing the pupils to find the parts that correspond in shape and colour; synthetically by making patterns with different kinds of leaves or other objects (four of each kind), and placing those of the same kind in opposite positions, with the stems toward the centre. (These patterns may be made before a class by fastening the leaves, etc., to a piece of board with small tacks. It is best to place a small round object, a flower for instance, in the centre.) The great fundamental law of symmetry, or harmony of opposites, is thus learned very easily.

3. Let pupils form patterns by laying leaves, small flowers, etc., etc., on their desks, and making the opposite parts with similar leaves, etc. (The roadside will supply plenty of material for this objective work.)

4. Let them copy on their slates, with pencils, the simple patterns they make with objects.

5. Show how they may fill a square with such symmetrical patterns.

6. In drawing such patterns let junior pupils use for construction, or guide lines, small squares checkered over the large one in faint lines.

7. Vary the position of the square (*a*) diameter upright; (*b*) diagonal upright; (*c*) two concentric squares one with diameter upright, the other with diagonal upright, etc., and let the pupils fill each time with symmetrical patterns.

8. When sufficient time has been devoted to the square, show how to make other geometrical figures, and how to fill them with symmetrical patterns. Be sure to explain new geometrical figures, only when you need to use them.

NOTE. This work should be done on slates, by pupils in First and Second Books, and beyond this the teacher should be guided by the books recommended by the Education Department.

THE ART OF QUESTIONING.

I. According to the purpose for which they are used, questions are :

1. Tentative or preliminary.
2. Teaching or developing (Socratic).
3. Testing in (a) repeating, (b) recalling, (c) reviewing.

II. According to the method of asking them, questions may be divided into :

1. Those requiring simultaneous answers.
2. Those requiring individual answers.
3. Elliptical; sentences with parts omitted, to be filled in by the pupils.
4. Suggestive; indicating the answer by form or inflection.
5. Alternative; answered by "yes" or "no," "old" or "young," "large" or "small," etc.

NOTE.—Classes 3, 4 and 5 should be used sparingly. Simultaneous answers may be used in repeating, or recalling, and then chiefly in connection with elliptical and alternative questions.

III. Rules for questioning.

1. Do not ask questions in rotation.
2. Do not name the pupil who is to answer a question until after it has been stated.
3. Do not indicate by pointing, looking, or in any other way, which pupil is to be called up to answer a question until after it has been stated.

In review or repetition questions, do not wait an instant for the answer.

When a question demands independent thought, wait a sufficient time after stating it, before naming a pupil to answer it, but pass rapidly to some one else if the first named cannot answer.

6. Give easiest questions to backward and diffident pupils.
7. Give most questions to backward and diffident pupils.
8. Do not form the habit of repeating the answers given.
9. Give a question promptly to an inattentive pupil.
10. State every question to the whole class, and then call on one pupil to answer it.

SCHOOL ORGANIZATION.

This subject includes the suitability and adaptability of everything which has to do with the school work.

Proper Organization—includes :—

1. School room and its appointments.
2. Apparatus and books.
3. Classification of pupils.
4. Apportionment of time and subjects.
5. Registration.

School-Room.

1. Should be substantial and commodious, properly heated and ventilated.
2. Seats should not face windows.
3. Should be kept clean and decorated.
4. Should be furnished with hooks, maps, globes, blackboards, crayons, erasers, numerical frame, tablet lessons, weights and measures, thermometer, clock, etc.

Text Books.

Pupils should be furnished with all necessary books, and teacher should have a full set of text books used in school.

Classification

Is the grouping of pupils for school work according to age, ability, and scholarship.

The following points must be considered :

1. *Uniformity.*—The several branches should be kept as nearly abreast as possible.

Pupils should be so classified as to give the greater part of their time to subjects in which they are deficient.

2. *Adaptation.*—Every pupil should be placed in the class best suited to his ability and advancement.

3. *Age, Ability, and Scholarship.*—Other things being equal, older pupils should be classed higher than younger ones, and strong, bright pupils, higher than delicate, dull ones.

4. *Reading and Arithmetic.*—These subjects may be taken as a basis for classification. In ungraded schools the classification should be sufficiently flexible to provide for the circumstances of the school or pupil.

5. *Number of Classes.*—As few classes should be formed as is consistent with good grading. Numerous classes fritter away the time.

6. *Size of Classes.*—Medium sized classes are best. Very large classes prevent individual teaching. Small classes make it difficult to sustain interest among the pupils.

Time Table.

It must be adapted to the school. It cannot be drafted till the school is classified. It must provide :

1. Specific employment for each pupil during the entire school day.
2. Adequate time for each recitation.
3. Proper rests and recess.
4. Due attention to each pupil.
5. Proper distribution of studies of the same kind.
6. Alteration of study and recitation.

Registers.

Kinds—Daily and Class. The use of each should be explained, and copies placed in the hands of the students.

SCHOOL GOVERNMENT.

This subject includes all the means employed to accomplish the best results with the least waste of time and labour.

Objects to be secured.

Order, attention, diligence, prompt and cheerful obedience, a healthy tone and good habits among the pupils, the correction and prevention of misdemeanor.

Qualities necessary in the teacher.

System, energy, vigilance, will-power, self-control, confidence, ability to punish judiciously, culture, heart-power, teaching power, managing power.

The following hints may be given :

1. Have but few rules and abide by them.
2. After giving an order wait to see that it is obeyed.
3. Your language should not imply that your pupils desire to violate your orders.
4. Commands should be given in a quiet, firm tone, without shouting or repetition.
5. Seldom reprove.
6. Keep your pupils employed.
7. If necessary, explain the reason of your command.
8. School government should be *regular, natural, self-sustained, unobtrusive, kind and just.*

Class recitation.

1. As to pupils. Proper mode of advancing to position ; position itself ; supply of materials—books, slates, pencils, etc. ; mode of holding books and slates ; attention ; dismissal from the school-room.

2. As to teacher. Position of teacher, whether sitting or standing ; manner during recitation ; animation ; attention ; division of attention between class and other pupils ; economy of time ; recitations should not encroach upon each other ; should have some specific object ; every error should be corrected ; lessons should be made interesting ; frequent reviews necessary ; mode of assigning subsequent lesson.

Motives to be placed before children.

Perception of utility, emotion, love of approbation, duty of obedience to constituted authority. Rewards, as changing places, appointment to offices of trust, merit cards, certificates, prizes, etc. Punishments, as censure, demerit marks, corporal punishment, suspension, expulsion.

Offences.

Give hints on how to deal with the following: (1) want of punctuality; (2) irregularity; (3) truancy; (4) indifference to study; (5) neglect of home work; (6) quarrelling; (7) whispering; (8) copying; (9) tattling; (10) lying; (11) communicating with other pupils; (12) use of bad language.

Rules for the infliction of punishment.

1. Punishment should be reformatory, not vindictive.
2. Should not be administered in anger.
3. Teacher should not manifest pleasure.
4. Should be a natural consequence of the offence.
5. Age and health of the offender must be considered.
6. Should be deliberate and seldom inflicted.
7. Should not excite public sympathy.

*SCHOOL LAW.**General Hints.*

Form of applying for a situation as teacher; agreement with trustees; must be signed by a majority; what constitutes its validity; its reservations; visiting days; holidays; absence on account of sickness; agreement how dissolved; resignation; suspension of certificate; salary how payable; school grants how paid; on what conditions can teachers claim pay for holidays.

School Room Duties.

Must be at school certain time before opening; opening religious exercises; who are exempted from attending, and on what conditions; authority of the teacher as a public officer; no person to interfere with him in the discharge of his duty; power to suspend pupils and for what offences; limitations of this power; expulsion, on what grounds legal; duty in regard to school property; out-premises, fences, well, and playgrounds; fires and sweeping; school reports; registers.

Duties as to Pupils.

Instruction according to programme; constant employment of his time; discipline, nature of; when too severe; kind of government desirable; merit cards; absence from school; presents; subscriptions; time table; quarterly examinations; visitors' book; visitors.

Duties of Pupils.

Punctuality; cleanliness and good conduct; leaving before closing; absence; excuses; absence from examination; going to and from school; supply of books; property injured; contagious diseases; effects of expulsion; certificate of good conduct.

*HYGIENE.**The Teacher.*

How to preserve his health; hours for study; rest; recreation; sleep; dietics.

The Pupil.

Under this chapter discuss the brain and nervous system. Lessons should be suited to the age and physical strength of the child; danger of over study; when should home lessons be relaxed; necessity for variety, recreations, etc.; alcohol, its nature and its effects upon the human system.

The Spinal Column.

Discuss the Anatomy and Physiology of the spinal column, chest, lungs, heart, stomach, and show the evil effects of leaning over a desk, stooping, walking on the toes, etc.

The Eye.

Discuss the Anatomy and Physiology of the eye; how to light a school room; how to regulate lights by means of blinds; diseases of the eye caused by bad lighting; how to remedy; near sightedness; how to place pupils with reference to blackboards; windows; slate; copy, etc.

Heating.

How to prevent draughts; where to place the stove; how to regulate the heat; thermometer, and where to hang it.

Ventilation.

Importance of; how to secure when not provided for in the erection of the school building; simple way of ventilating by doors; windows; effects of bad ventilation; symptoms of, etc.

The Play Ground.

Dangerous games; what to prohibit and what allow; winter games for boys; winter games for girls; summer games; drill, value of.

School Accidents.

How to deal with fainting, bleeding at the nose, broken limbs, severe cuts or bruises, drowning.

Infectious Diseases.

How to detect whooping cough, measles, scarlet fever, diphtheria, skin diseases; care of outhouses.

TEXT BOOKS.

The following text-books are compulsory:—1. A complete set of all the text-books prescribed for use in the first four classes. 2. Baldwin's Art of School Management.

Recommended.—1. McLellan's Mental Arithmetic, Part I. 2. Normal Music Course, Part I. 3. Hughes' Drill and Calisthenics. 4. Whitney's Elementary Lessons in English (Teachers' edition). 5. Ayres' Orthoepist. Richardson's Lessons on Temperance.

EXAMINATIONS.

The examination papers will be based on the syllabus of lectures and text-books recommended. In Music, Drill and Drawing no papers will be issued by the Department. Marks may be awarded by the teachers in charge of these special subjects, and in such cases the Board of Examiners will see that due credit is given in the certificates for the attainments of the teachers in training.

Report of J. J. Tilley, Esq., Inspector of County Model Schools.

SIR,—I have the honour to present herewith my report upon the County Model Schools in the Province of Ontario for the year 1884.

Fifty one Model Schools were in operation during the year, and teachers were also trained in the Model School for the City of Toronto. The Model School for the County of Peterboro', which had been closed for several years, was reopened this year in the Village of Norwood. In the County of Lincoln the Model School was removed from St. Catharines to Beamsville. Model Schools are now established in every county in the Province.

Equipment. Separate rooms for Model School purposes were provided in forty-four schools, an increase of seven over the number reported in 1883. Provision has been made for supplying separate rooms at Cornwall, Orangeville, and Renfrew for the future. Many of the schools are but poorly furnished with requisites for Model School purposes. Every school should have a good dictionary, a gazetteer, and some standard works on education for the use of teachers and students: a small special grant for this purpose would be of very great assistance.

Relief of Principal. An assistant for the relief of the Principal was provided in forty-one schools, an increase of thirteen over last year: there now remain but ten Model Schools in which such an auxiliary has not been provided. In some cases the non-appointment of an assistant is due to the lack of an extra room for Model School purposes. I have reason to believe that the number of schools with a regular assistant will be considerably increased next year. With the increased grant now given to Model Schools, and with the fees received from students, Boards of Trustees are abundantly able to provide a separate room, and also an assistant to relieve the Principal during the term. I think the time has come when the receiving of the full amount of the grant should be conditional upon compliance with the regulations in this regard. If students are required to attend a Model School, and to pay a fee for such attendance, the organization of the school should be such as will enable them to derive the greatest possible benefit. To expect this result while the Principal's whole time during school hours is taken up with a division of pupils is most unreasonable: it is unfair to the Principal and unjust to the students. In a few schools a person outside the regular staff was appointed to do Model School work: this plan is not satisfactory, and should not be adopted: the person so employed having no acquaintance with the school, and not possessing the authority of a Principal, cannot possibly make the best use of the school as a whole, for the training of the students. Again, the same person is rarely employed a second time in the same school, and consequently the difficulties in school work which always meet a stranger, constantly present themselves from session to session. The Principal is the only person that can take charge of the Model School work with the greatest advantage to the students, and with the least inconvenience to the school.

Management. The suggestions to Principals, made in the Syllabus, to give special attention to the *practical*, rather than to the *theoretical*, during the first half of the term, and to illustrate their theory of teaching the different subjects by actual practice before the students, have been followed in every school with very satisfactory results: by these means, and by teaching classes in the separate room under the guidance of the Principal, the students were prepared to teach fairly well before they took charge of the regular work in the divisions. In consequence of this preparatory training, the ordinary routine and discipline of the schools were disturbed much less than in former years, and complaint was rarely made that the Model School either interfered with the discipline of the school, or retarded the progress of the pupils: on the contrary, many Principals now express the belief that the general standing of the school is improved by the Model School work. The inspection showed that fair progress had been made during the term by both teachers and students. In the theory and practice of teaching, the students generally acquitted themselves very well indeed, but in criticism they did not give evidence of equal proficiency. The teachers in our Model Schools are laboring faithfully to promote the best interests of the students under their training, and are doing an invaluable benefit to the

schools, in sending out annually a supply of trained instructors to undertake the important duty of teaching the youth of our country : a work which, judging from the small remuneration received in many cases, is not sufficiently appreciated. The time spent by the students in the assistants' rooms is not always employed to the best advantage. I am inclined to think that a good deal of the time occupied in observing teaching in the different rooms is not productive of much benefit to the students. If the suggestions made in the Syllabus under the heading "management," (Section IV.), were more generally adopted, more benefit would be derived from observing. The Syllabus has been well received by the Principals, and has, I believe, directed and assisted them very much in their labours : the assistants in the Model Schools should be furnished with copies, and I think it would be well if the students also were supplied. "Baldwin's Art of School Management," the text-book prescribed, has proved very serviceable, but the work might be considerably reduced, and sold at a lower price. Several of the teachers have expressed a desire that some book on *methods* be introduced for Model Schools.

Second Session.—There is at present but one session of 13 weeks in the year, and students who fail at the final examination cannot try again for a year : this seems a hardship, for undoubtedly many of those who fail, having struggled on for years through the Public and High Schools, to pass the Non-Professional Examination, are unable to wait a whole year for another chance to succeed, and after having spent so much time and labor in preparing themselves for teaching, are compelled to turn aside and seek some other employment. It is true that very few are rejected by local Boards of Examiners : but this fact furnishes pretty strong evidence that some Boards, in consideration of the hardship involved in rejecting candidates, of which I have just spoken, are inclined to be too lenient in awarding certificates : as an evidence of this over ninety-one per cent. of the candidates received certificates. If students were allowed to attend a second term, during the first half year, the numbers passed at the December examination would probably show a considerable decrease. The interests of our schools and the best interests of the students themselves require that only those who give *satisfactory* evidence of their ability to teach and govern a school should receive a license to teach. Sympathy here is a mistaken kindness. There need not be a second term in every school : three or four counties might be grouped, and one school opened for the students rejected in this group of counties : the students who succeed at the close of the second session would be available for vacancies that occur after midsummer. If this were done the Model School students would have the same opportunities for passing examinations that are now afforded to Normal School students.

Students.—The Principals, with but few exceptions, spoke in most commendatory terms of the deportment and diligence of the students, and reported them as anxious to make the best possible use of the advantages afforded them. A most kindly feeling between teachers and students was shown in all the schools.

The statistics for the year are given in the annexed table.

SCHEDULE A.

NAME OF MODEL SCHOOL.	No. of Student Teachers on Roll.	Increase over last year.		Males.	Females.	No. that withdrew during the term.	No. that passed Final Examination.		No. that Failed.	No. of Lectures on Education.	No. of Lectures on Civil Law.	No. of Lectures on Hygiene.	No. of Lessons taught by each Student.	No. of Departments used.	No. of Assistants with the required Qualifications.
		Increase.	Decrease.				Increase.	Decrease.							
Barrie	20			10	10		19		1	30	5	5	30	7	6
Beamsville	25	11		11	14	1	24	10		52	13	20	31	4	4
Berlin	15	3		6	9		13	3	2	45	5	6	32	8	6
Bradford	12	1		9	3		11			32	1	13	30	4	2
Brampton	13		6	3	10		11		2	29	6	33	30	4	4
Brantford	20	2		7	13		20	2		49	18	33	28	7	7
Caledonia	26	5		6	20		26			60	6	24	24	4	4
Chatham	29	5		8	21		28	4	1	59	10	25	22	8	6
Clinton	28	1		15	13		25	4	3	48	6	15	33	8	5
Cobourg	33	7		17	16		29	5	4	25	5	10	28	11	7
Cornwall	11	2		3	8		11	2		30	12	15	30	4	3
Durham	11			5	6		11			20	15	12	30	4	2
Farmersville	35	7		8	27		35	7		15	15	15	24	3	3
Forest	16	6		6	10		14	4	2	105	20	35	32	4	3
Galt	15			8	7	1	13		1	45	8	20	27	7	6
Goderich	27		3	14	13		21	9	6	42	6	7	28	8	8
Hamilton	41	23		6	35		41	23					32	4	3
Ingersoll	14		8	7	7		14	1		45	10	15	30	10	5
Kincardine	21			17	4	2	18		1	34	4	15	40	7	5
Kingston	49	27		9	40	1	34	12	14	30	5	12	8	8	8
Linlsey	30	10		12	18		29			71	6	10	20	11	8
London	26	16		10	16		21	14	5	88	4	8	30	5	4
Madoc	19		1	6	13		18		1	50	12	24	27	4	4
Martintown	15	11		2	13		15	11		30	10	15	30	3	1
Milton	17		1	9	8		17	1		110	9	15	32	5	3
Morrisburg	25	14		13	12		25	15		80	6	15	25	6	2
Mount Forest	41	4		16	25	1	31	6	9	32	6	6	24	7	3
Napawan	27	3		7	20	1	21	3		30	4	11	18	6	2
New Edinburgh	15	4		4	11	3	12	1		20	5	8	30	4	2
Newmarket	10		4	5	5		10	2		60	8	10	75	5	2
Norwood	10	10		4	6		10	10		50	6	15	14	4	2
Orangeville	16			8	8		16			48	12	14	30	7	5
Owen Sound	15		3	9	6		15	3		46	10	29	40	5	5
Parkdale	28	9		10	18		25		3	52	20	32	30	10	7
Parrish	21	2		3	18		21	3		35	8	10	30	6	3
Picton	22	4		8	14		22	4		51	2	22	33	8	5
Port Hope	24	9		9	15		20	6	4	60	12	25	28	10	6
Port Perry	11			7	4		11			60	10	35	30	5	2
Prescott	15	9		11	4		15	9		20	6	15	32	6	6
Renfrew	21	5		6	15		21	5		62	18	10	35	4	4
St. Thomas	37	14		13	24	2	33	11	2	31	10	10	22	8	3
Sarnia	15			7	8		14		1	52	10	15	35	8	5
Sarnia	16	2		7	9		16	3		60	10	15	30	6	6
Stratford	62	21		25	37	1	54		7	60	13	13	30	19	14
Stratroy	29	10		11	18	1	19	5		9	6	3	36	8	7
Vankleekhill	8	1		2	6		7	1	1	40	6	15	30	4	3
Welland	14	1		2	12		14	1		42	6	8	35	4	4
Whitby	22	2		8	14		22	2		40	12	18	30	3	3
Windsor	12	4		2	10		12	5		14	6	7	35	6	2
Woodstock	17	3		6	11		17	3		50	15	23	36	11	3
Walkerton	16		10	4	12		16	9		40	6	15	37	7	4
Total	1117	268	36	421	696	15	1017	186	34	82269	449	757	1573	329	227

SCHEDULE A.—Continued.

Time given daily by Principal to Lectures, Citations, etc.	Was an Assistant provided?	To what extent was Principal relieved each day?	Is separate room for M. S. purposes provided?	Is this room in the school buildings?	Was Vocal Music taught?	Was Drill taught?	Allowance to Assistants for M. S. work.	do. Allowance to Principal for
3 hrs.	yes	2 hours	yes	yes	no	no	\$25 00	
all day	"	all day	"	"	yes	yes		\$250 00
3½ hrs.	"	2 hours	"	"	"	"		150 00
2½ hrs.	"	2 hours	"	"	no	no	100 00	
4 hrs.	"	all day	"	"	yes	yes	125 00	95 00
4 hrs.	"	3 hours	"	"	"	"	400 00	150 00
all day	"	all day	"	"	no	no	125 00	
5 hrs.	"	5 hours	"	no	yes	yes	200 00	
2½ hrs.	½ of term	1 hour	no	"	no	"		
3 hrs.	yes	3 hours	yes	yes	yes	"	200 00	
2 hrs.	no	"	no	"	no	yes		
4 hrs.	yes	1 hour	yes	yes	yes	"		
4½ hrs.	"	4½ hours	"	"	no	"	75 00	
4 hrs.	"	all day after Oct. 30	"	no	"	"	50 00	
2 hrs.	no	"	no	"	"	"		150 00
2½ hrs.	"	"	yes	yes	"	yes		100 00
2 hrs.	"	"	"	"	yes	"		252 00
2 hrs.	"	"	no	"	no	"		150 00
3 hrs.	yes	4½ hours	yes	yes	"	no	125 00	
3 hrs.	"	3 hours	"	"	"	"		120 00
2½ hrs.	"	2½ hours	"	"	"	"		
2 hrs.	"	2 hours	"	"	"	"	100 00	100 00
4 hrs.	"	3 hours	"	"	"	yes	100 00	
2 hrs.	no	"	"	"	yes	no	25 00	100 00
3½ hrs.	yes	all day	"	"	"	yes	150 00	50 00
all day	"	"	"	"	no	"	150 00	
2½ hrs.	"	"	"	"	yes	"	140 00	100 00
2 hrs.	"	2 hours	"	"	yes	"	60 00	
2 hrs.	no	"	no	no	"	no		300 00
4 hrs.	yes	all day	yes	yes	"	yes	70 00	75 00
3 hrs.	"	2 hours	"	"	"	"		100 00
3 hrs.	"	all day	"	no	"	no	125 00	
4 hrs.	"	"	"	yes	"	yes		
5 hrs.	"	"	"	"	yes	"	130 00	
6 hrs.	"	"	"	"	no	"	100 00	
6 hrs.	"	"	"	"	yes	"	150 00	
4½ hrs.	"	"	"	"	no	no		200 00
2½ hrs.	"	1½ hours	"	"	yes	yes	100 00	100 00
2 hrs.	"	2 hours	"	"	no	no	25 00	150 00
2 hrs.	no	"	no	no	"	"		75 00
4 hrs.	yes	all day	yes	yes	yes	yes	125 00	
3 hrs.	"	2 hours	"	"	"	"	50 00	
4 hrs.	"	3 hours	"	"	"	"		175 00
6 hrs.	"	all day	"	"	no	"	50 00	
2 hrs.	"	3 hours	"	no	yes	"	100 00	
2½ hrs.	no	"	no	"	no	no		
2 hrs.	"	"	"	"	yes	yes		25 00
4 hrs.	yes	3 hours	yes	yes	no	"	150 00	100 00
3 hrs.	"	all day	"	"	"	no	150 00	100 00
6 hrs.	"	"	"	"	"	yes	125 00	300 00
6 hrs.	"	"	"	"	"	"	130 00	

SCHEDULE B.

NAME OF MODEL SCHOOL.	NAME OF PRINCIPAL.	CLASS OF CERTIFICATE.
Barrie ..	T. O. Steele ..	1st A Provincial.
Barnesville ..	R. K. Row ..	1st B " "
Berlin ..	J. Subbady ..	1st Class " "
Bethford ..	E. Wood ..	1st " " "
Brampton ..	A. Merton ..	1st " County Board.
Brantford ..	W. Wilkinson ..	M.A.
Caledonia ..	R. C. Cheswright ..	1st B Provincial.
Chatham ..	W. H. Cole ..	1st A " "
Clinton ..	W. R. Leach ..	1st C " "
Cobourg ..	H. F. McNamee ..	1st Class " "
Cornwall ..	P. T. Teet ..	1st " " "
Durham ..	J. Winterborn ..	1st A " "
Farmersville ..	T. J. O'Connor ..	1st A " "
Forest ..	J. R. Brown ..	1st C " "
Galt ..	E. Alexander ..	1st Class " "
Goderich ..	A. Enbary ..	1st A Provincial.
Hamilton ..	G. W. Johnson ..	2nd Class " "
Ingersoll ..	J. S. Dore ..	1st A " "
Kincardine ..	F. C. Powell ..	1st B " "
Kington ..	J. S. Rowat ..	1st A " "
Lindsay ..	R. Lees ..	1st C " "
London ..	W. J. Carson ..	1st A " "
Madoc ..	W. C. Clark ..	1st Class " "
Mariontown ..	A. Kennedy ..	1st " " "
Milton ..	H. Gray ..	1st " " "
Morrisburg ..	G. E. Blacklock ..	1st " " "
Mount Forest ..	S. B. Westervelt ..	2nd " " "
Naperville ..	J. Bowerman ..	2nd " " "
New Edinburgh ..	J. Meskett ..	1st " " "
Newmarket ..	W. Ramme ..	1st Class " "
Norwood ..	A. Hutchison ..	1st " " "
Orangeville ..	D. McArdle ..	1st A " "
Owen Sound ..	T. Frazer ..	1st Class " "
Parry Sound ..	J. A. Wisner ..	2nd A " "
Perth ..	M. M. Jacques ..	1st Class " "
Pictou ..	R. W. Murray ..	1st B " "
Port Hope ..	G. Keel ..	1st A " "
Port Perry ..	A. M. Roe ..	1st Class " "
Prescott ..	C. Matherson ..	1st " " "
Renfrew ..	J. Bow ..	1st A " "
St. Thomas ..	N. M. Campbell ..	1st Class " "
Severn ..	A. Wark ..	1st B " "
Simcoe ..	T. M. Porter ..	1st C " "
Stratford ..	C. M. Chedwick ..	1st A " "
Strathroy ..	T. Denison ..	1st Class " "
Vankleekhill ..	D. Marshall ..	1st B " "
W. Wood ..	R. Grant ..	1st Class " "
W. Wood ..	J. Brown ..	1st " " "
Windsor ..	J. Dunlop ..	1st " " "
Woodstock ..	J. E. Dennis ..	1st " " "
Walkerton ..	W. R. Tolford ..	1st B " "

and 1st Class C. B.

and 1st Class C. B.

DIVISION IV.

TEACHERS' ASSOCIATIONS.

Proceedings of 1884.

1. ONTARIO TEACHERS' ASSOCIATION, 1884.

Extract from the proceedings of Convention, held on the 12th, 13th and 14th days of August, 1884.

The Convention met on Tuesday, August 12th, 1884.

The President, Hon. G. W. Ross, in the chair.

Reports respecting County Associations were received from

Mr. J. T. Murphy	.....Middlesex.....	Representing 120 Members.
" Sinclair	.....E. Lambton.....	98 "
" Baird	.....W. Huron.....	85 "
" F. C. Powell	.....Bruce.....	80 "
" D. A. Maxwell	.....E. Essex.....	70 "
" Chadwick	.....Perth.....	200 "
" Payne	.....Algoma.....	30 "
" McRae	.....Waterloo.....	40 "
" J. H. Smith	.....Wentworth.....	105 "
" J. H. Smith	.....Hamilton.....	115 "
" D. P. Clapp	.....N. Wellington..	103 "
" C. Ramage	.....S. Grey.....	100 "
" D. Fotheringham	.....N. York.....	80 "
" T. O. Steele	.....N. Simcoe.....	50 "
" Hénstridge	.....Frontenac.....	140 "

RESOLUTIONS ADOPTED.

1. That the amount of Legislative Grant to Public Schools be largely increased.
2. That a part of each Grant (say one-half) be divided equally among all the school sections in the municipality, and that for the purposes of this section each additional department counts as one-half of a school, in making this division.
3. That the balance of the Legislative Grant (say one-half) be apportioned on the basis of the *rates of taxation* in the several school sections for the previous year, and that the balance of the municipal grant be appropriated on the basis of average attendance for the whole year.

Resolved, That Industrial Drawing be made compulsory in Public and High Schools, and that the marks in drawing be taken into account, the same as those in other subjects, at the Entrance Examination to High Schools.

That so far as practicable industrial occupations of an appropriate character should be introduced into Public Schools, especially in the junior classes, and that the Honourable the Minister of Education be requested to provide for such training in connection with the Normal and Model Schools, as a means of training the hands of children, and chiefly for the purpose of developing their intellectual faculties.

Resolved, That in view of the change that has taken place since the subject "A Minister of Education vs. Chief Superintendent of Education" was brought before the Association, and the general feeling among teachers, as shown by the reports of delegates, that the new Minister of Education should have a fair trial, it is inexpedient to discuss the matter further at present.

PUBLIC SCHOOL SECTION.

Resolved, That the holidays in rural districts should be six weeks by departmental regulation, instead of being as at present, optional with trustees.

Resolved, That reading, writing and spelling be given more marks at the High School Entrance Examination.

Resolved, (1) That the history for the High School Entrance Examination is too extensive; (2) That it would be preferable to make Canadian History and one period of English History, to be set from time to time by the Department, the history for the Entrance Examination.

That the thanks of the section be tendered to Dr. Forrest, of Bradford, for illustrations of the use of his word-builder.

HIGH SCHOOL MASTERS' SECTION.

Resolved, That the importance of book-keeping and of such other subjects, already on the programme, as have special reference to a commercial education, should be recognized in connection with the departmental examinations.

Resolved, That the University of Toronto be requested to recognize as fully matriculated students, all who at the Local Examination shall obtain the standard for matriculation, and who in other respects comply with the conditions of entering the University.

Resolved, That the University of Toronto be requested to extend the Local Examination to boys as well as to girls.

Resolved, That the University Senate be requested to place the subject of botany, chemistry, or chemical physics, on the University Curriculum for Junior Matriculation, examination in such subjects to be optional.

Resolved, That in view of the very objectionable nature of some of the papers set at the last matriculation examination of Toronto University, notably that of the pass paper in Mathematics, our representatives in the University Senate be requested to use their best endeavours to have none but suitable persons appointed as examiners, and to secure that the examiners for matriculation should consist of a professor of the subject examined in, and if possible an ex-High School master conversant with the capabilities of High Schools.

Resolved, That the Department of Education should recognize the claims of those pupils who do not wish to be prepared for a professional examination, or for teaching, by establishing a course for study and examination embracing the subjects mentioned in Mr. Bryant's paper, with the addition of Phonography as an optional subject, and by instituting an examination in the course to be conducted on methods similar to those outlined in Mr. Bryant's paper, successful candidates to receive a certificate of standing. The expenses of the examination to be defrayed by a fee from each candidate, it being understood that no school shall be required to take up the work for this course without the full consent and approval of its local authorities.

Resolved, That the Department be requested to select the sub-examiners from among High School masters and other teachers of practical experience.

Resolved, That the University Senate be requested to make the pass work in classics and modern languages the same as that required for honour work in the same departments at junior matriculation.

Resolved, That the University Senate be requested to confine the pass Latin prose for junior matriculation to the translation of sentences of a character similar to those found in the first forty exercises of Bradley's Arnold's Latin Prose, and to the re-translation of an extract from an easy Latin author, the Latin being given for the more difficult words.

Resolved, That the University Senate be requested to add Canadian History to the subjects for junior matriculation.

Resolved, That the percentage for pass at junior matriculation should be raised.

Resolved, That 8b, sec. 2, p. 23, of the School law, be amended, by making thirteen weeks the time for first half-year, and nine weeks the time for the second half-year.

Resolved, That the amount of legislative aid to schools should be increased.

Resolved, That the school fund be apportioned each half-year as follows:—A portion as a fixed grant to each school department, and the balance on the basis of average attendance.

AMENDMENTS TO THE SCHOOL LAW.

In lieu of sub-sec. 8d, sec. 5 (1881), p. 23 :

Resolved, That a return of the names and residences of all pupils failing to comply with the requirements of sec. 8 (pages 22 and 23), be prepared by the teacher and trustees from the register and census, and the same be forwarded to the Inspector, whose duty it shall be to place the same in the hands of a police magistrate, or justice of the peace having jurisdiction, to be dealt with according to the provisions of the 211th section.

Resolved, That in the opinion of this section, the summer holidays of all rural schools should be of six weeks' duration, and should begin on the second Saturday of July, and end on the Saturday following the completion of the six weeks allowed. Provided always, that any county council shall have power by vote to change the date of beginning the holidays to suit the harvest season in their county. Provided also, that the length of the summer vacation shall not be shortened.

Resolved, That in sec. 15, p. 25, the words, "in which High Schools are situate" should be struck out.

Resolved, That sub-sec. 8b, sec. 2 (1881), p. 23, be amended, by striking out all words after "to attend a public school is," and substituting in lieu thereof, "110 days in the year," and, that at the end of the first half year, the secretary of the school section shall notify the parent or guardian of every child between the ages of seven and thirteen years, how many more days the child shall be required to attend in the year to secure compliance with the provisions of this section.

Resolved, That after the word compensation in sec. 38 (a), p. 29, be inserted the clause "except as provided in the following subsection," sub-sec. 38b providing as follows:—That the Annual Meeting shall have power to vote a limited sum which may be applied by the trustees in payment of the necessary expenses of the office of secretary, notwithstanding that the said officer be a member of the school corporation.

Resolved, That sec. 5a, p. 39, should be amended so as to make it the duty of the Township Clerk to furnish the County Inspector annually with the numbers of children between the ages of five and sixteen, sixteen and twenty-one, and seven to thirteen inclusive, in each section, also the total assessment, the requisitions of the trustees, and the rate per dollar.

Resolved, That sub-sec. 1 of sec. 58a, p. 34, should be amended by enacting, that the nomination and election of Public School Trustees in cities, towns and incorporated

villages, be held on the same day as the nomination and election of Municipal Councillors.

Resolved, That in order to simplify the payment of the School Grants, sec 194, sub-sec. 15, should be amended so as to read as follows:—

That the Inspector, upon completing the apportionment of each of the school grants, shall furnish to the County or Sub-Treasurer a statement of the sums apportioned to the several sections—the amount of superannuation fund having been deducted—and that the said treasurers shall pay said amounts to the teachers upon order of trustees.

Resolved, That (c) sec. 10 (1881), p. 41, should be expunged, and that the law be the same as before the said amendment in 1881.

Resolved, That the expenses of all examinations in connection with the public educational system, except entrance to High Schools, should be provided for by fees to be paid by candidates.

It was moved and seconded, That sub-sec. 7 (b) of sec. 89, p. 50, be amended so that it shall be the duty of county councils to provide and levy the sum of \$50 towards the County Teachers' Institute or Association in the county or each Inspector's District.
—*Lost*.

An amendment substituting \$25 for \$50 in last motion was carried.

Resolved, That the number of trustees in rural school sections be increased by two, and that the same be five instead of three—also that each trustee hold office for five years.

Resolved, That sec. 102, sub-sec. 3 (a), p. 54, should be amended by inserting the words "or ratepayers" after the word "trustee."

Resolved, That sec. 102, sub-sec. 9 be amended by adding the words and "systematically ventilate" after the word "build."

Resolved, That sec. 108 be amended by striking out all the words after "inefficiency," and substituting the words "proved to the satisfaction of the Minister in Council."

Resolved, That in the opinion of this section, chap. 204, sec. 186 of the School Act should be amended so as to remove all doubt in regard to its being compulsory on County Councils to provide for the travelling and other official expenses of Public School Inspectors.

Resolved, That sec. 187 be amended by striking out the word "exceeding" and inserting the words "less than" and that after the word "county" "city," or "town" be inserted.

Resolved, That in 5b, sec. 8 (1881), p. 39, the clause, "In preparing . . . sixteen years," be struck out, and that in lieu thereof be inserted: "To take the school census of each section separately, which shall set forth the name of every child in the school section between the ages of five and . . . the name of the parent or guardian, and residence, as provided in Schedule B. The census shall be sent by the clerk to the secretary of each school section on or before the . . . day of . . . in each year.

"And that all the provisions of sub-sec. 5a, inconsistent with 5b, be repealed."

SCHEDULE.

Census of S. S. No., in the Township of.

Taken by. Assessor.

Trustees.

Secretary.

. P.O.

No.	Name.	Age.	Parent or Guardian.	Residence.	To be entered by the Teacher.		
					Attendance of pupils between the ages of 7 and 13.		
					1st $\frac{1}{2}$ year.	2nd $\frac{1}{2}$ year.	Total.

Resolved, That it be compulsory on Trustees to pay Teachers quarterly.

Resolved, That sub-sec. 2, of sec. 160, p. 87, be amended as follows : " A non-resident child or children shall be returned the same as resident children, provided no rate-bill is charged on such child or children by the trustees."

RESOLVED.

1. That all the powers heretofore vested in Township Councils or in referees or commissioners appointed by such councils, with respect to the formation and alteration of school Sections lying wholly within the township limits, be placed in the hands of commissioners of school section boundaries, such commissioners to consist of the County Inspector having jurisdiction, together with one person appointed by the township council and one by the county council, neither of whom shall be a member of the township council, and both of whom shall hold office during pleasure.
1. (a) The commissioner appointed by the county council shall not be a resident or ratepayer within the limits of the municipality for which he is appointed a commissioner.
2. That the formation or alteration of union school sections shall be effected by resolution of a majority of the commissioners of the municipalities concerned present at a meeting of which due notice shall have been given.
2. (b) In all cases in which such commissioners would constitute an even number the senior county judge shall be added thereto.
3. That on the petition of any ratepayer who resides at least one-fourth of a mile nearer, by a travelled road, to the school in another section in which his residence is

assessed, the commissioners shall attach the lot upon which such residence is situated to the section containing the school nearest thereto.

4. That no alteration in the boundaries of a school section, other than as provided in the last preceding clause, shall be made except upon petition of at least five ratepayers of one or more of the sections affected by such alteration.

5. That upon petition of at least five ratepayers of a school section in which a school-house is to be built against the decision of the majority of the trustees and ratepayers with regard to the site for such school-house, the commissioners having jurisdiction shall have authority to determine such site.

6. That every township council be required to levy in each year a uniform rate upon all the assessed property of the municipality, and to pay therefrom to the trustees of each section, for each teacher employed by such trustees, a sum equal to at least one-half the average salary of the Public School Teachers of such municipality during the year then last past.

7. That such additional special rate shall be levied upon the ratable property in each section as may be required by the trustees thereof.

8. That to the 29th clause of the Public Schools Act of 1879 be added the following :
" Provided that adequate accommodation, as required by the law and regulations, has been furnished for the city, town, incorporated village or school section ; but no such question shall be submitted to the ratepayers unless such adequate accommodation has been furnished. Provided, also, that the resolution of the school board of a city, town or incorporated village, or of the trustees of a rural school section, to build or enlarge a school-house, or to purchase a school site, or addition thereto, shall be considered approved of unless a majority of the ratepayers of such city, town, village or school section record their votes against such resolution.

9. That the municipal council of each city, town, village or township in which no Free Library is established, shall be required to contribute to the support of the Mechanics' Institute or Institutes situated therein a sum equal to that contributed by the legislature for the same purpose.

10. That, instead of County Boards of Examiners, District Boards be formed, consisting of the Inspectors of not more than three adjacent Inspectorates, together with an equal number of properly qualified persons appointed as may be provided by law.

11. That such Boards shall have the power to fix the *minimum* qualifications of third-class teachers within their respective districts, subject to the approval of the Minister.

12. That certificates issued by such Boards shall be valid only within the jurisdiction of the Board by which granted, but may be endorsed at his discretion by any County Inspector, upon application of the trustees of any school section.

12. (a) Such endorsement shall not render the certificate valid in any other section in the county, unless renewed by the Inspector.

13. That such Boards be empowered to issue Assistants' Certificates upon conditions to be determined by them, with the approval of the Minister ; such certificates to be valid only in the junior departments of rural Public Schools.

14. That no person shall be eligible for the office of District Examiner, or of Provincial Sub Examiner, who has not had at least five years' experience as teacher in public educational institutions of the Province.

15. That no Public or High School teacher shall be eligible as examiner for the district within which he resides.

During the Sessions of the Association the following Papers were read, viz :—

The President's Address. Hon. G. W. Ross.

Some Popular Fallacies with Regard to Education. Principal Grant.

The Conflict of two Ideals in Education. Col. F. W. Parker.

Industrial Education. Mr. James L. Hughes.

How best to Secure the Permanence and to increase the Efficiency of Model Schools.

Mr. G. W. Johnson.

Status and Value of Third-Class Certificates. Mr. F. L. Michell.

Uniformity of Text Books. Mr. William Carlyle.

University Consolidation and Increased Legislative Aid to Colleges. Mr. A. P. Knight.

2.—TEACHERS' ASSOCIATION'S FINANCIAL STATEMENTS, 1883.

NAME OF ASSOCIATION.	No. of Association.	Total Number of Members.	Total Number who have paid Fees.	(Government Grants.)		Municipal Grants.		Members' Fees.		Balances and other sources.		Total Receipts.		Printing and Postage.		Libraries, Educational Contributions, etc.		Miscellaneous.		Total Expenditure.		Balances.	
				£.	%	£.	%	£.	%	£.	%	£.	%	£.	%	£.	%	£.	%	£.	%	£.	%
Glenazary.	1			50 00				18 00		70 00		120 00		5 74				30 30		79 11		44 69	
Stornont.	1			50 00				20 00		80 00		130 00		16 14		29 50		63 14		79 11		76 58	
Dundas.	1			50 00				20 00		96 00		166 00		15 21		63 14		63 14		141 95		24 06	
Prescott.	1			50 00				6 70		73 65		130 00		10 24		16 00		66 30		93 05		37 06	
Russell.	1			50 00				2 75		82 75		111 48		9 98		92 36		92 36		93 34		13 13	
Carlton.	1			150 00				6 50		7 10		163 60		6 10		163 60		156 00		169 00		0 70	
Greenville.	1			50 00				1 00		33 00		33 98		5 50		38 48		36 00		39 00		56 00	
North Leeds.	1			50 00				32 00		133 00		244 80		6 00		27 00		27 00		33 00		211 80	
Leam.	1			50 00				32 00		173 45		255 45		13 36		7 00		7 00		51 51		203 94	
Renfrew.	1			100 00				7 70		107 70		197 70		8 90		64 00		64 00		72 30		34 80	
Procton.	1			25 00				4 00		43 49		7 49		3 90		34 00		34 00		37 30		34 59	
Leiton and Addington.	1			50 00				4 75		28 85		85 60		15 50		16 95		25 00		57 45		26 15	
Prince Edward.	1			50 00				2 50		62 42		112 42		2 05		13 00		13 00		21 00		91 42	
North Hastings.	1			50 00				16 75		146 75		199 25		40 03		52 00		6 58		99 76		99 53	
South Hastings.	1			50 00				28 55		32 20		169 45		24 00		28 00		46 21		98 84		61 61	
Norfolk Island.	1			100 00				15 25		49 75		165 00		11 95		64 95		46 80		125 70		39 30	
Darwin.	1			50 00				9 25		164 31		248 59		17 80		21 00		21 00		39 80		398 79	
East Victoria.	1			50 00				4 50		65 14		144 64		10 11		33 50		33 50		43 44		101 70	
West Victoria.	1			25 00				35 00		55 00		84 00						33 50		43 44		101 70	
Haghton.	1			25 00				35 00		55 00		84 00						33 50		43 44		101 70	
Outback.	1			50 00				35 00		55 00		84 00						33 50		43 44		101 70	
North York.	1			50 00				35 00		55 00		84 00						33 50		43 44		101 70	
Port.	1			50 00				35 00		55 00		84 00						33 50		43 44		101 70	
North, St. George.	1			100 00				11 50		2 50		164 00		12 50		16 10		104 95		197 25		46 89	
South, St. George.	1			100 00				13 50		4 61		114 11		6 25		13 70		80 84		119 45		15 14	
Malton.	1			50 00				7 50		77 07		134 57		21 85		29 30		29 30		66 05		83 55	
Westworth.	1			50 00				11 25		99 93		149 93		11 64		32 25		57 40		104 49		49 98	
Pratt.	1			100 00				43 00		43 00		83 00		13 18		10 35		104 95		197 25		50 17	
London.	1			50 00				18 34		18 34		68 34		18 80		17 10		98 50		113 40		129 09	
Welland.	1			50 00				7 50		150 29		233 49		14 50		48 50		48 50		113 40		129 09	
Waldmaid.	1			50 00				26 00		63 02		149 02		12 25		37 80		90 93		130 28		18 64	
Norfolk.	1			100 00				31 30		11 90		141 90		10 25		20 00		75 52		105 57		6 13	
Oxford.	1			50 00				31 30		57 33		142 63		13 36		30 63		50 63		73 07		69 02	
Waterloo.	1			50 00				31 30		57 33		142 63		13 36		30 63		50 63		73 07		69 02	

North Wellington.	1	104	77	50 00	38 73	60 47	149 20	24 92	37 70	35 10	87 72	61 48
South Wellington	1	100	63	50 00	29 05	65 20	144 34	30 90	43 85	15 67	99 12	53 92
East Grey	1	70	41	100 00	10 25	127 01	237 26	36 33	51 85	51 85	88 18	149 08
West Grey	1	22	21	30 00	10 30	132 70	193 20	16 65	55 81	77 03	148 81	41 30
South Grey	1	96	47	50 00	40 00	333 15	123 15	13 65	26 65	43 35	83 65	39 50
Dufferin	1	73	48	50 00	31 15	6 95	138 10	7 51	85 45	43 40	136 36	1 74
Perth	1	175		50 00		169 02	219 62	20 67		124 90	114 95	71 07
North Huron	1	12	12	100 00	21 00	95 55	216 35	9 76		109 40	119 16	97 26
West Huron	1	120	61	50 00	16 00	168 95	234 95	11 34	14 75	67 10	93 19	141 76
East Bruce	1	108		50 00		148 65	193 65	16 58		71 51	91 09	107 56
West Bruce	1	48	19	50 00	6 75	71 13	127 88	14 98	7 50	45 90	68 58	59 50
East Middlesex	1	123	83	50 00		29 50	53 31	132 81		50 46	88 96	43 85
West Middlesex	1	106	106	50 00	160 00	82 50	327 75	42 4	53 35	180 00	275 80	51 95
Elgin	1	135		50 00		18 58	68 58	8 50		30 00	58 50	50 08
East Kent	1	60	9	50 00	4 50	253 04	307 54	9 29		146 79	156 08	151 46
West Kent	1	69	8	50 00	3 50	111 89	165 39	23 01	4 65	10 00	37 60	127 73
East Lambton	1	96	96	50 00	45 50	45 45	140 95	33 32	42 85	29 54	105 71	135 24
West Lambton	1	101	27	50 00	29 25	146 98	226 23	10 88	21 95	55 09	87 83	138 40
North Essex	1	85		50 00	50 00	89 69	189 63	33 00	50 00	52 75	135 75	53 91
South Essex	1	67		100 00		130 02	230 02	13 90	43 55	139 97	187 42	42 00
District of Muskoka	1			50 00	25 00	50 00	134 06	17 50		55 47	72 97	61 09
District of Algoma	1	53	53	50 00		50 00	50 00	3 53		7 50	11 03	38 97
District of Pelly Sound	1	32	32	50 00	7 15	62 74	120 19	1 48	41 55	38 70	82 23	37 96
City of Hamilton	1	109		50 00	25 00	25 00	75 00		15 45	8 85	31 50	39 91
City of Kingston	1	33	11	50 00	3 25	18 16	71 41	7 29	21 00	37 50	58 50	210 04
City of London	1			50 00	12 50	205 04	268 54		21 00	21 50	55 78	22 61
City of Ottawa	1	60	50	50 00	28 42	78 42	240 15	8 21	26 07	23 53	68 60	171 35
City of Toronto	1	166	166	100 00	41 50	98 65	384 42	7 25	37 60	188 35	483 41	101 01
Ontario Teachers' Association, 1882-3				100 00	184 42			295 65				
Total, 1883.	62	1821	2105	4025 00	722 83	5120 08	10372 91	1186 80	1274 32	3409 67	5870 79	4302 12
Total, 1882	62	1395	2467	2900 00	1688 84	5105 44	4394 28	1626 31	453 02	3876 00	5355 33	1658 95
Increase		434		1125 00	135 60	296 01	14 61	978 63	160 49	821 30	515 46	463 17
Decrease			362							466 33		

DIVISION V.—DEPARTMENTAL EXAMINATIONS.

ADMISSION OF CANDIDATES AT COLLEGIATE INSTITUTES AND HIGH SCHOOLS.

SCHOOLS AT WHICH EXAMINATIONS WERE HELD.	DECEMBER, 1883.					JULY, 1884.				
	CANDIDATES.					CANDIDATES.				
	Examin'd.	Passed.	From Prep'ary.	From Public and Separate Schools.	From Private Schools.	Examin'd.	Passed.	From Prep'ary.	From Public and Separate Schools.	From Private Schools.
Alexandria	39	10		35		49	18		49	
Alma	46	16		37		56	31		50	6
Armstrong	17	4		10		33	10		33	5
Aylmer	5	11		50		33	17		33	
Barnes	79	29		76		112	31		101	11
Beaconsfield	10	8		10		18	10		18	
Bellefleur	139	63		116		136	59		122	11
Berlin	38	23		38		69	35		69	
Bowmanville	41	23		41		58	17		58	
Braden	31	23		31		36	19		36	
Brampton	58	40		57		73	29		73	
Burlington	117	95		103		113	83		102	9
Buxton	29	9		29		27	13		27	
Brockville	49	26		47		62	29		62	
Caledonia	42	27		42		61	29		61	
Campbellton	38	16		37		45	18		45	
Carleton Place	22	12		22		29	15		29	
Cavaca	21	11		21		33	12		33	
Chatham	79	43		78		113	45		97	11
Clifton	63	33		63		71	31		71	
Colborne	41	18	16	27		57	26		49	
Collingwood	31	15	15	15		27	12		18	
Cornwall	76	31		75		87	25		85	
Drummondville	38	16		30		73	31		56	17
	13	10		13		30	21		30	

Dundas	44	20	.....	44	35	7	33	4	33
Dunville	28	20	.....	28	31	14	31	4	31
Elora	32	18	.....	32	44	18	40	4	40
Farmersville	49	23	.....	49	49	18	49	2	49
Fergus	20	16	.....	19	60	25	58	1	58
Galt	49	35	.....	47	52	26	50	1	50
Cananogue	48	16	.....	48	54	11	52	1	52
Godenrich	80	67	.....	72	88	17	76	1	76
Grimsby	14	10	.....	14	29	22	29	1	29
Guelp	66	51	.....	65	88	56	88	1	88
Hamilton	109	77	.....	109	136	88	134	1	134
Harrison	42	24	.....	42	80	48	80	1	80
Hawkesbury	16	8	.....	16	14	3	14	1	14
Ingersoll	58	40	.....	58	73	37	73	1	73
Iroquois	35	9	.....	35	46	17	46	1	46
Kemptville	32	16	.....	32	61	21	61	1	61
Kincardine	55	31	.....	55	69	33	69	1	69
Kingston	56	32	.....	30	73	30	49	1	49
Lindsay	53	22	.....	42	44	19	39	1	39
Listowel	51	31	.....	51	52	19	52	1	52
London	71	46	.....	68	58	11	53	1	53
Markham	43	25	.....	42	40	25	40	1	40
Mitchell	51	25	.....	51	46	20	46	1	46
Morrisburg	40	23	.....	40	66	27	66	1	66
Mount Forest	56	41	.....	49	79	33	79	1	79
Napanee	56	35	.....	56	74	23	74	1	74
Newburg	31	15	.....	31	38	14	38	1	38
Newcastle	19	9	.....	19	27	22	27	1	27
Newmarket	64	37	.....	62	66	30	66	1	66
Niagara	7	7	.....	7	15	8	15	1	15
Norwood	13	8	.....	13	9	5	9	1	9
Oakville	28	17	.....	26	20	13	18	1	18
Oakwood	23	17	.....	23	30	33	30	1	30
Oranmore	13	2	.....	13	29	10	29	1	29
Orangeville	63	37	.....	63	83	33	83	1	83
Orillia	46	29	.....	42	43	31	43	1	43
Oshawa	56	31	.....	52	57	31	57	1	57
Ottawa	82	51	.....	74	125	53	129	1	129
Owen Sound	76	46	.....	44	143	96	111	1	111
Paris	24	13	.....	24	31	14	31	1	31

DEPARTMENTAL EXAMINATIONS.

ADMISSION OF CANDIDATES AT COLLEGIATE INSTITUTES AND HIGH SCHOOLS.

SCHOOLS AT WHICH EXAMINATIONS WERE HELD.	DECEMBER, 1883.					JULY, 1884.				
	CANDIDATES.					CANDIDATES.				
	Examined.	Passed.	From Prepary Form.	From Public and Separate Schools.	From Private Schools.	Examined.	Passed.	From Prepary Form.	From Public and Separate Schools.	From Private Schools.
				Pub.	Sepr.				Pub.	Sepr.
Parkhill	43	22		43		55	31		55	
Pembroke	39	30		36		48	16		40	
Perry	71	31		66	3	65	38		59	8
Peterborough	67	49		58	9	92	34		81	11
Pictou	49	32		49		55	37		55	
Port Dover	63	37		61	21	91	52		91	
Port Hope	11	7		11		29	15		29	
Port Perry	51	37		51		38	19		38	
Port Rowan	21	11		21		60	33		60	
Prescott	27	18		25	21	19	9		19	
						38	18		26	12
Renfrew	41	21		37	4	54	29		51	3
Richmond Hill	38	17		38		41	21		41	
Ridgelytown	58	36		58		72	54		72	
Sarnia	85	60		85		63	32		59	4
Seaford	46	29		46		99	48		98	1
Simcoe	86	37		85		72	28		71	1
Smith's Falls	27	17		27		27	6		27	
Smithville	19	16		19		29	8		29	
Stratford	81	42		78	3	131	56	6	114	11
Strathroy	128	53		128		116	50		116	
Steelesville	35	29		35		34	5		34	
St. Catharines	39	21		39		44	26		32	7
St. Marys	56	32		54	2	66	41		61	5

St. Thomas.	85	46	883	2	186	109	181	5	
Sydenham	20	8	20		39	23	39		
Thorold	24	18	21	3	18	15	17	1	15
Toronto	131	97	74		116	52	50		
Trenton	25	17	25		30	15	24	6	
Uxbridge.	38	25	38		42	28	42		
Vankleek Hill.	19	8	19		42	18	42		
Vienna	16	9	10		21	10	21		
Walkerton	69	45	68	1	121	71	118		3
Wandsworth	26	16	26		49	29	49		
Watford	43	26	43		60	35	60		
Welland	55	39	54		36	36	51	3	
Weston	15	13	15		23	9	23		
Whitby	71	49	71	3	70	14	63	7	
Williamstown	26	11	26		43	11	42	1	
Windsor	38	15	51	4	47	10	47		
Woodstock	53	39	53		77	32	77		
<i>Summary of the foregoing</i>									
Collegiate Institutes	1132	690	983	39	1450	720	1273	65	37
High Schools	3868	3231	3705	102	1836	2277	4928	143	29
Grand Total	5000	3921	4688	141	6286	2997	5901	208	57
Comparison with December, 1882, and June, 1883	4300	1820	* 1007	105	5662	3119	5378	149	40
Increase	700	2101	80	36	624	122	523	59	17
Decrease									

* 92 pupils not reported in December, 1882.

INTERMEDIATE, THIRD AND SECOND CLASS NON-PROFESSIONAL EXAMINATIONS.

PLACES OF EXAMINATION.	Candidates Examined.	Pupils of the School Examined.	Candidates from elsewhere.	Passed for Intermediate.	Passed for Third Class.	Passed for Second Class, Grade "B."	Passed for Second Class, Grade "A."	Failed.
Collegiate Institutes	1431	1080	351	476	206	197	121	431
High Schools	3574	2824	750	1154	636	452	283	1049
Other places	123		123	46	18	8	10	41
Total	*5128	3904	1224	1676	860	657	414	1521

* In this table, candidates who wrote for both second and third class non-professional standing are only reckoned once.

DIVISION VI.

PUBLIC SCHOOL TEACHERS' CERTIFICATES, ETC.

1.—CERTIFICATES GRANTED.

THIRD, SECOND AND FIRST CLASS.	Male.	Female.	Total.
Third Class, by County Boards, as per County Model School Reports	not reported.		1017
Second Class, by Department, viz:			
Teachers who had taught three years prior to August 18th, 1877.	4		4
Ottawa Normal School	63	82	145
Toronto Normal School.....	114	163	277
First Class, by Department	30	3	33

District Certificates granted under Regulations approved May, 1883.

COUNTY OR DISTRICT.	No. of Candidates.	No. who obtained Certificates.
Renfrew	49	48

2. LIST OF PROVINCIAL CERTIFICATES GRANTED BY THE EDUCATION DEPARTMENT.

Certificates granted 19th January, 1884, to Candidates who passed the First Class Professional Examination, July, 1883.

No.	NAME.	1st Class.	No.	NAME.	1st Class.
6299	Rogers, Thomas H	C	6300	McJanet, Thomas.....	C

Certificate granted 25th January, 1884, to Candidate who has taught three years prior to 17th August, 1877.

6301	McFayden, Archibald	2nd Class. B
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PROVINCIAL CERTIFICATES.

Certificates granted 29th February, 1884, to Candidates who passed the Professional Examination, January, 1884.

TORONTO NORMAL SCHOOL.

No.	NAME.	2nd Class.	No.	NAME.	2nd Class.
6302	Birchard, Alexander F.	A	6336	Fry, Allen Burness	B
6303	Clark, Harold	A	6337	French, Charles Marvin	B
6304	Cowie, Robert Hall	A	6338	Gray, John	B
6305	Chappel, Henry	A	6339	Hallam, Aaron W.	B
6306	Dunning, Mark	A	6340	O'Donnell, Thomas	B
6307	Edmiston, James Alfred	A	6341	Orton, William E.	B
6308	Forrest, William	A	6342	Ryan, Austin	B
6309	Hastie, William G.	A	6343	Ritchie, George Maxwell	B
6310	Kellam, Archibald Robert	A	6344	Stitt, John Wesley	B
6311	Musgrove, William	A	6345	Ventress, Amos Byron	B
6312	McConnell, Frederick W.	A	6346	Carnochan, Annie	B
6313	McDowell, George Kerr	A	6347	Chown, Annie	B
6314	McEachern, Neil S.	A	6348	Cole, Bella	B
6315	Noble, Orlando	A	6349	Cullen, Annie	B
6316	Orr, Alfred	A	6350	Carroll, Belle	B
6317	O'Donnell, Charles	A	6351	Dickson, Eliza R.	B
6318	Rogers, Joseph Whyte	A	6352	Foster, Jessie	B
6319	Burgess, David Allen	A	6353	Ferguson, Lizzie	B
6320	Alexander, Jessie	A	6354	Gladdish, Lillian G.	B
6321	Bannister, Alice Mary	A	6355	Holtorf, Jennie	B
6322	Gunn, Mary	A	6356	Kirkendale, Lizzie	B
6323	Henderson, Agnes	A	6357	Keele, Sarah	B
6324	Murphy, Mattie	A	6358	Love, Bella	B
6325	Niven, Christina	A	6359	Meek, Maggie	B
6326	Patterson, Eliza Henrietta R.	A	6360	McDonald, Rachael	B
6327	Rose, Emily Frances	A	6361	Sanderson, Charlotte Elsie	B
6328	Ross, Sarah	A	6362	Sheppard, Mary	B
6329	Shirra, Jennie S.	A	6363	Scott, Phoebe C.	B
6330	Wedlake, Mary Kent	A	6364	Scott, Isabella C.	B
6331	Alexander, Robert	B	6365	Woolley, Nellie	B
6332	Blue, John D.	B	6366	Whitfield, Charlotte Ann	B
6333	Clark, William J.	B	6367	Flach, Irla Elizabeth	B
6334	Collins, Arthur E.	B	6369	Walker, Mary Louise	B
6335	De LaHunt, Joseph	B			

OTTAWA NORMAL SCHOOL.

6368	Etherington, Edward J.	A	6384	Rose, R. Charles	B
6369	Evans, William E.	A	6385	Reid, Richard	B
6370	Harris, John Scott	A	6386	Smith, Walter	B
6371	Hastings, Rowland John	A	6387	Thompson, George	B
6372	Martin, Robert F.	A	6388	Watson, Robert	B
6373	McDonald, Peter D.	A	6389	Brownlie, Elizabeth A.	B
6374	Norrish, Enos J.	A	6390	Betting, Sarah	B
6375	Quackenbush, Allen	A	6391	Elliott, Jennie J.	B
6376	Althouse, Gertrude E.	A	6392	McDougall, Mary	B
6377	Conihart, Christina	A	6393	McWilliams, Elizabeth	B
6378	Blake, John	B	6394	McGee, Sarah M.	B
6379	Campbell, Duncan	B	6395	McManus, Emily	B
6380	Callander, Robert Alexander	B	6396	Smith, Addie	B
6381	Closs, John	B	6397	Stewart, Catharine	B
6382	Hales, James	B	6398	Ross, Isabella M.	B
6383	Powell, Paul	B			

Certificates awarded 15th April, 1884, to Candidates who have attended a University, and are entitled to receive a Certificate.

6400 Hughes, Samuel

1st Class.

A

PROVINCIAL CERTIFICATES.

Certificate granted 25th April, 1884, to Candidate who has taught three years prior to 15th August, 1877.

No.	NAME.	2nd Class.	No.	NAME.	2nd Class.
6401	Holgate, Thomas F	B			

Certificate granted 14th July, 1884, to Candidate who has complied with the regulations respecting First Class Certificates.

1st Class.

6402	Deacon, John Scott	A
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Certificates granted 22nd July, 1884, to Candidates who passed the Professional Examination, June, 1884.

TORONTO NORMAL SCHOOL.

2nd Class.

6403	Christie, Duncan McLaren	A	6448	Thomas, George Henry	B
6404	Clasholm, William Isaac	A	6449	Aitkman, Annie	B
6405	Casswell, Frank	A	6450	Adams, Mary B	B
6406	Forester, Henry	A	6451	Armstrong, Josephine	B
6407	Fleckenstein, Louis	A	6452	Aitken, Jennina E	B
6408	Harvey, William Herbert	A	6453	Axford, Jennie	B
6409	Hugill, Edwin Augustus	A	6454	Barrie, Bessie	B
6410	Hutchison, Allen	A	6455	Barron, Bridget L	B
6411	Ireland, William W	A	6456	Brown, Annie	B
6412	McConachie, Alexander Douglas	A	6457	Chambers, Augusta	B
6413	McGillivray, John C	A	6458	Drennan, Elizabeth	B
6414	McLauchlin, James	A	6459	Dale, Margaret Elizabeth	B
6415	Porter, Frank	A	6460	Elliott, Jeanie	B
6416	Tovell, Amos	A	6461	Grant, Lillas	B
6417	Bradshaw, Mary	A	6462	Girdwood, Annie Rodgers	B
6418	Broad, Lydia Rosina Mary	A	6463	Gibson, Margaret	B
6419	Coleman, Mary Elizabeth	A	6464	Holterman, Christina M	B
6420	Cooke, Nina Margaret	A	6465	Kinsley, Annie	B
6421	Edwards, Mary Ella	A	6466	Latham, Charlotte Elizabeth	B
6422	Harris, Amelia	A	6467	Lochead, Charlotte Elizabeth	B
6423	Henry, Mary Isabella	A	6468	Monkhouse, Margaret Ellen	B
6424	Kirk, Miranda	A	6469	Murphy, Jennie Gertrude	B
6425	Killoran, Maria	A	6470	Maddock, Clara Alice	B
6426	McKeon, Minnie Helen	A	6471	Maley, Maria	B
6427	McGowan, Annie R	A	6472	Malcolmson, Ida	B
6428	Nunno, Lily K	A	6473	McKay, Nellie	B
6429	Nichol, Bessie	A	6474	McRoberts, Jessie	B
6430	Owen, Bessie Dutton	A	6475	Macdonnell, Christina	B
6431	Paton, Lybella McIvor	A	6476	McMillan, Ida	B
6432	Reid, Elizabeth	A	6477	MacDonald, Jane Esther	B
6433	Stobbs, Annie Maud	A	6478	Nobbs, Frances Elizabeth	B
6434	Scott, Emma C	A	6479	Orr, Mary	B
6435	Tretheway, Frances	A	6480	Pomeroy, Minnie Elfreda	B
6436	Butler, Thomas	B	6481	Pierce, Lena	B
6437	Brown, Malcolm D	A	6482	Reed, Florence	B
6438	Balfour, James Ross	B	6483	Robertson, Mary Grant	B
6439	Copeland, John Corneill	B	6484	Richards, Hannah	B
6440	Henderson, Thomas	B	6485	Robertson, Margarette L	B
6441	Hanna, John	B	6486	Sparks, Elizabeth Helen	B
6442	Lemon, William W	B	6487	Seager, Octave	B
6443	Mair, Asa W	B	6488	Watson, Annie	B
6444	McBride, George L	B	6489	Wilson, Jessie	B
6445	McCool, John	B	6490	Wightman, Isabella	B
6446	Rome, Andrew	B	6491	Young, Elizabeth Mary	B
6447	Sloan, Thomas W	B			

OTTAWA NORMAL SCHOOL.

6492	Corrigan, George D	A	6502	Mackenzie, Ewen Archibald	A
6493	Davis, Walter H	A	6503	McPherson, Duncan A	A
6494	Edwards, Clarence Bartlett	A	6504	McDonald, James	A
6495	Fralick, Reuben S	A	6505	McKenzie, Colin	A
6496	Gourlay, Thomas	A	6506	McNeil, Duncan	A
6497	Hoggarth, David Alexander	A	6507	Pickard, Joseph L	A
6498	Hollingshead, John Edwin	A	6508	Rundle, William M	A
6499	Long, William Joseph	A	6509	Reany, Richard	A
6500	Lewis, Lafayette Levi	A	6510	Smith, James L	A
6501	Munro, John	A	6511	Sheppard, Frederick W	A

PROVINCIAL CERTIFICATES.

No.	NAME.	2nd Class.	No.	NAME.	2nd Class.
6512	Beatty, Joseph	A	6538	Cowan, Alice	B
6513	Cameron, Mary	A	6539	Coleman, Agnes McK	B
6514	Davis, Catharine G	A	6540	Davis, Anne	B
6515	Fleming, Jessie A. G.	A	6541	Dalley, Theodosia Leonora	B
6516	Hutcheson, Annie Robertson	A	6542	Drake, Sara E.	B
6517	Hely, Margaret Elizabeth	A	6543	Goudy, Ellen	B
6518	Kincaid, Catharine	A	6544	Hamil, Christina	B
6519	Lawyer, Hattie	A	6545	Hart, Nellie G.	B
6520	Mark, Olivia	A	6546	Jones, Mary Ann	B
6521	Moss, Bella	A	6547	Kearney, Elizabeth	B
6522	Mackenzie, Mary Blanche	A	6548	Knowles, Alice	B
6523	Wootton, Susan Hooper	A	6549	Linton, Frances Charlotte	B
6524	Ward, Alma A.	A	6550	Lean, Martha Marion	B
6525	Atkinson, Alexander C.	B	6551	Munro, Isabella	B
6526	Blanchard, Alexander	B	6552	Mathews, Carrie	B
6527	Fraser, George B.	B	6553	MacNeil, Phenna	B
6528	Irvine, Henry	B	6554	Mackenzie, Isabella Gatherer	B
6529	Jones, Samuel	B	6555	Porter, Jane	B
6530	McRoberts, Robert C.	B	6556	Polsen, Susanna	B
6531	McClenahan, William James	B	6557	Ross, Teenie	B
6532	O'Reilly, William Joseph	B	6558	Ross, Elizabeth	B
6533	Spotswood, William A. J.	B	6559	Sproule, Emily	B
6534	Winter, Washington	B	6560	Southard, Lilly H.	B
6535	Anderson, Ella	B	6561	Thistlethwaite, Hattie	B
6536	Beaton, Celia	B	6562	Taylor, Nellie	B
6537	Blewett, Mary Elizabeth	B	6563	Waite, Margaret M.	B

Certificate granted 27th August, 1884, to Candidate who has taught three years prior to 15th August, 1877.

6564 | Carmichael, Donald B

Certificates granted 27th August, 1884, to Candidates who passed the First Class Examination, July, 1884.

1st Class.		1st Class.	
6565	Burns, William	6578	Byfield, Lizzie
6566	Cowley, Robert Henry	6579	Burns, William
6567	Day, Isaac	6580	Campbell, Neil W.
6568	Ferguson, Miles	6581	Doppel, Moses G.
6569	Hetherington, Daniel Currie	6582	Graham, Robert
6570	McMillan, Alexander	6583	Kayler, William B.
6571	Turner, John B.	6584	Kirkconnell, Thomas
6572	Kollett, Nicholas	6585	McGuire, Thomas H.
6573	Murray, Robert Wellesley	6586	O'Brien, Michael
6574	McMurchy, Helen	6587	Parkinson, Matthew
6575	Robb, David	6588	Sanderson, Robert
6576	Roy, Robert K.	6589	Thomas, Janie
6577	Broderick, Gideon E.	6590	Wallis, John

Certificates granted 18th September, 1884, to Candidates who pass 1st First Class Examination, July, 1884.

6591 | Cornforth, William C 6592 | Markel, Jacob Hiram C

Certificates granted 15th October, 1884, to Candidates who passed the Second Class Professional Examination.

2nd Class.		2nd Class.	
6593	Price, Samuel	6594	Twohey, Mary C.

Certificate granted 28th October, 1884, to Candidate who has attended a University, and is entitled to receive a Certificate.

1st Class.	
6595	Elliott, John

PROVINCIAL CERTIFICATES.

Certificate granted by Order in Council, dated 2nd November, 1884, to Candidate who has passed the Second Class Professional Examination.

No.	NAME.	1st Class.	No.	NAME.	2nd Class.
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6596 Richardson, Kate B

Certificate granted by Order in Council, dated 22nd November, 1884, to Candidate who has passed the First Class Professional Examination.

6597 Baird, George, sur 1st Class.
B

Certificate granted by Order in Council, dated 25th November, 1884, to Candidate who has taught three years prior to the 1st August, 1884.

6598 Harding, Samuel H. 2nd Class.
B

Certificates granted by Order in Council, dated 2nd December, 1884, to Candidates who have complied with the Law and Regulations respecting Second Class Professional Certificates.

6599 Duncan, John A 6600 Verth, Adelaide A

Certificates granted by Order in Council, dated 2nd December, 1884, to Candidates who have passed the Second Class Professional Examination, December, 1884.

TORONTO NORMAL SCHOOL.

6601	Allingham, Arthur William	A	6644	Knox, Agnes	A
6602	Allin, John Herbert	A	6645	Kirkpatrick, Henrietta	A
6603	Brown, John E.	A	6646	Lennox, Elizabeth Emma	A
6604	Braithwaite, James W.	A	6647	Murray, Jennie	A
6605	Black, Benjamin Franklin	A	6648	Morrison, Margaret A.	A
6606	Cook, John Edwin	A	6649	Macdonald, Jessie St. Claire	A
6607	Carpenter, Ernest Henry	A	6650	McDonald, Nerva	A
6608	Dickinson, James Arthur	A	6651	McNaughton, Isabella	A
6609	Davidson, James B.	A	6652	McIntyre, Catharine Ann	A
6610	Fairman, Phillip Wellesley	A	6653	Pearson, Margaret Maria	A
6611	Fletcher, William John	A	6654	Riach, Alice Gilchrist	A
6612	Gimby, John Houghton	A	6655	Reede, Maude	A
6613	Hugill, Burton	A	6656	Sutton, Augusta	A
6614	Johnson, Donald	A	6657	Starrette, Lily Madeline	A
6615	Jones, Marshall Hall	A	6658	Starrette, Pella	A
6616	Kee, David Noble	A	6659	Simpson, Isabella	A
6617	Kietman, Robert Malcolm	A	6660	Sutherland, Elsie Ann	A
6618	Knight, William Whittington	A	6661	Woolley, Lucy	A
6619	Lyon, Frank	A	6662	Wright, Annie Letitia	A
6620	Langford, Robert Albert	A	6663	Anderson, Andrew T.	B
6621	Leslie, James	A	6664	Burnows, Jacob Edward	B
6622	Letherdale, James	A	6665	Black, Edward Roy	B
6623	McDonald, Robert	A	6666	Carrie, Donald	B
6624	McCarthy, James H.	A	6667	Delegaty, James	B
6625	McKeelnie, John Gray	A	6668	Ellerby, John Williams	B
6626	McRae, William W.	A	6669	Fairman, Richard	B
6627	Neagle, Joseph	A	6670	Ferguson, Malcolm	B
6628	Strath, Robert Smith	A	6671	Galbraith, John	B
6629	Taylor, Wilson	A	6672	Hay, James C.	B
6630	Thompson, John J.	A	6673	Johnston, Thomas	B
6631	Winter, Fountain A.	A	6674	Moore, Francis	B
6632	Woods, George	A	6675	Montgomery, Wilson	B
6633	Bremner, Isabella M.	A	6676	McDonald, George	B
6634	Beam, Rebecca C.	A	6677	Rooney, John James	B
6635	Bateman, Minnie	A	6678	Robertson, James	B
6636	Coleridge, Selina	A	6679	Smith, David	B
6637	Duncan, Jessie	A	6680	Smale, John J.	B
6638	Fyfe, Ella	A	6681	Teney, Hampton	B
6639	Foster, Ada	A	6682	Wilkinson, Wm. Robert	B
6640	Graham, Lucinda	A	6683	Baillie, Elizabeth	B
6641	Hicks, Minnie	A	6684	Butters, Annie Livingston	B
6642	Hobson, Georgiana Mary	A	6685	Beckett, Grace Elizabeth	B
6643	Killoran, Catharine	A	6686	Butterworth, Mary Elizabeth	B

PROVINCIAL CERTIFICATES.

No.	NAME.	2nd Class.	No.	NAME.	2nd Class.
6687	Chisholm, Janet R	B	6702	McKindsey, Etta	B
6688	Cleator, Mary Jane	B	6703	McArthur, Christina Muirhead	B
6689	Cody, Eliza	B	6704	Pringle, Helen	B
6690	Claxton, Alice	B	6705	Philp, Alice	B
6691	Dunbar, Sarah	B	6706	Ross, Margaret	B
6692	Drew, Mary Minerva	B	6707	Slater, Elizabeth Goodall	B
6693	Eadie, Clara	B	6708	Sheppard, Sarah	B
6694	Greer, Mary Cave	B	6709	Sanders, Alice Howard	B
6695	Garvin, Rosalie	B	6710	Spence, Nellie	B
6696	Graham, Elizabeth	B	6711	Thompson, Sara Belle	B
6697	Heath, Jennie	B	6712	Williams, Emma C.	B
6698	Husband, Ella	B	6713	Wyatt, Elizabeth	B
6699	Henry, Prudence	B	6714	Walton, Annie	B
6700	Heslop, Sarah Maude	B	6715	Winnacott, Mary Jane	B
6701	Malone, Charlotte	B	6716	Wood, Margaret Eleanor	B

OTTAWA NORMAL SCHOOL.

6717	Anderson, Stanley	A	6738	Patterson, Dora Myrtena	A
6718	Arthur, Samuel	A	6739	Rose, Bertha	A
6719	Bell, John H.	A	6740	Sanborn, Olivia	A
6720	Edwards, John Wesley	A	6741	Toye, Elizabeth B.	A
6721	Fitzpatrick, Michael	A	6742	Bowen, William	B
6722	Grant, Daniel Alexander	A	6743	Mahoney, John M.	B
6723	Haight, William A.	A	6744	Murphy, Peter J.	B
6724	Henricks, Isaac S.	A	6745	Weaver, Melvin E.	B
6725	Morris, Samuel J.	A	6746	Barry, Frances J.	B
6726	McKinstry, Herbert T. M.	A	6747	Hazel, Mrs. Carrie	B
6727	McQueen, William	A	6748	Reynolds, Jennie E.	B
6728	Wor, David R.	A	6749	Smith, Etta	B
6729	Yorrell, John Theodore	A	6750	Swan, Margaret Agnes	B
6730	McGregor, William J.	A	6751	Allen, Agnes	B
6731	Armstrong, Jennie	A	6752	Dyre, Carrie	B
6732	Gregor, Beatrice B.	A	6753	Dodds, Jennie	B
6733	Hendy, Harriet A.	A	6754	Johnston, Eliza	B
6734	Holden, Augusta	A	6755	Kennedy, Catharine Eliza	B
6735	Horne, Nettie	A	6756	McTaggart, Catharine A.	B
6736	Lent, Agnes C.	A	6757	McLean, Margaret	B
6737	McMillan, Ida	A	6758	Smith, Margaret V.	B

3.—THIRD CLASS CERTIFICATES EXTENDED BY THE MINISTER OF EDUCATION DURING
THE YEAR 1884.

No.	COUNTIES.	1884.
1	Glengarry	22
2	Stormont	21
3	Dundas	1
4	Prescott	34
5	Russell	10
6	Carleton	29
7	Grenville	24
8	Leeds	28
9	Lamark	3
10	Renfrew	20
11	Frontenac	14
12	Lennox and Addington	28
13	Prince Edward	10
14	Hastings	1
15	Northumberland	2
16	Durham	2
17	Perth	8
18	Haliburton	15
19	Victoria	4
20	Ontario	27
21	York	2
22	Peel	2
23	Simcoe	6
24	Halton	6
25	Wentworth	27
26	Brant	2
27	Lincoln	6
28	Welland	27
29	Haliburton	2
30	Norfolk	47
31	Oxford	5
32	Waterloo	1
33	Wellington	8
34	Dufferin	5
35	Grey	21
36	Perth	16
37	Huron	8
38	Brace	13
39	Middlesex	13
40	Elgin	4
41	Kent	23
42	Lambton	10
43	Essex	7
	District of Algoma	
	Total	528

4. TEMPORARY CERTIFICATES AUTHORIZED BY THE MINISTER OF EDUCATION DURING
THE YEAR 1884.

No.	COUNTIES.	1884.
1	Glengarry	12
2	Stormont	11
3	Dundas	25
4	Prescott	16
5	Russell	
6	Carleton	14
7	Grenville .....	..
8	Leeds	3
9	Lanark	1
10	Renfrew	46
11	Frontenac	6
12	Lennox and Addington .....	..
13	Prince Edward .....	..
14	Hastings	26
15	Northumberland	2
16	Durham .....	..
17	Peterborough .....	..
18	Haliburton .....	..
19	Victoria .....	..
20	Ontario .....	..
21	York	1
22	Peel	1
23	Simcoe	2
24	Hilton .....	..
25	Wentworth	2
26	Brant	1
27	Lincoln .....	..
28	Welland .....	..
29	Haldimand .....	..
30	Norfolk	18
31	Oxford .....	..
32	Waterloo	1
33	Wellington	1
34	Dufferin	1
35	Grey	14
36	Perth	1
37	Huron	2
38	Bruce	3
39	Middlesex .....	..
40	Elgin	1
41	Kent	16
42	Lambton	2
43	Essex	19
	Districts of Algoma and Parry Sound ..	25
	Total	273

5.—SUPERANNUATED TEACHERS.

(CONTINUED FROM LAST REPORT.)

1. Pensions granted during 1884.

No.	NAME.	Age.	Years of Teaching in Ontario.	Amount of Superannuation Allowance.
706	Henry Brown	58	22 $\frac{1}{2}$	135 00
707	Georgina Round	56	27 $\frac{1}{2}$	162 00
708	Gavin Shaw	68	20	120 00
709	Richard Burbage	62	21	126 00
710	William Tilley	60	28	176 00
711	Edward Hayward	60	35	210 00
712	Susan Flynn	60	45	270 00
713	Samuel Coyne	65	38	228 00
714	Joseph Kearney	60	29	174 00
715	Thomas Gordon	56	32	192 00
716	Dorothea Flavelle	60	13 $\frac{1}{2}$	81 00
717	Richard Ransbury Pierce	63	9	54 00
718	Francis R. Burd	47	10 $\frac{1}{2}$	63 00
719	Benjamin Shirreff	52	26 $\frac{1}{2}$	183 00
720	Catharine Rowland	43	21	147 00
721	John McGrath	46	24	154 50
722	Sarah Hovenden	54	23 $\frac{1}{2}$	141 00
723	John O'Leary	65	37 $\frac{1}{2}$	225 00
724	R. E. Hamilton	35	13	82 00
725	James M. Foran	64	22	132 00
726	William Laughlen	48	26	179 00
727	Archibald Dewar	57 $\frac{1}{2}$	28	194 50
728	Daniel O'Connor	47	17	102 00
729	Onagh Teresa Nagle	60 $\frac{1}{2}$	14	84 00
730	Chas. B. Calhoun	60	22	132 00
731	Robert Phillips	62	25	166 00
732	Martha Cullen	41	20 $\frac{1}{2}$	143 50
733	Ann Gamble	62	17	102 00
734	Horatio Nelson Courtlandt	57	37	239 00
735	John Raine	55	24 $\frac{1}{2}$	171 50
736	Chester Prouty	60	28	168 00
737	Robert Stone	68	14	84 00
738	Edwin Riley	60 $\frac{1}{2}$	34	204 00
739	William Cornerforth	61	25 $\frac{1}{2}$	162 00
740	George Lindsay	70	22 $\frac{1}{2}$	146 00
741	Andrew Porter	53	32	192 00
742	David D. Keenan	54	29 $\frac{1}{2}$	189 00
743	Israel B. Terryberry	50	17	102 00
744	Daniel O'Doherty	60	33	198 00
745	Henry W. Bolitho	61 $\frac{1}{2}$	25	150 00*
746	Elizabeth Shoemaker	54	24	144 00
747	James Kearney	39	10	60 00

* First payment to commence with January, 1885.

2. Summary for Years 1876 to 1884.

YEAR.	No. of Teachers on List.	Expenditure for the year.	Gross contributions to the Fund.	Amount refunded to retiring Teachers.	Net contributions and what per cent. of payments.	
					\$ c.	Per cent.
1876	266	31,768 82	12,647 25	1,252 83	11,394 42	35
1877	293	35,484 35	14,283 25	1,576 07	12,707 18	35
1878	339	41,318 95	13,767 12	1,591 64	12,175 48	29
1879	360	43,774 50	14,064 84	2,237 79	11,827 05	27
1880	391	48,229 13	15,816 45	3,252 92	12,563 53	26
1881	399	49,129 43	14,197 75	2,872 13	11,325 62	23
1882	422	51,000 00	13,501 08	3,660 10	9,840 98	19
1883	422	51,500 00	12,515 50	3,763 01	8,752 49	17
1884	443	54,233 93	15,802 50	4,037 59	11,764 91	21

6. TEACHERS RETIRED FROM THE PROFESSION DURING 1883.

Counties.	Teachers retired.	Counties.	Teachers retired.
Glengary	2	Brant	8
Stormont	1	Lincoln	7
Dundas	8	Welland	5
Prescott & Russell	4	Haldimand	10
Carleton	12	Norfolk	5
Grenville	7	Oxford	25
Leeds	9	Waterloo	10
Lunenburg	10	Wellington	13
Renfrew	5	Dufferin	5
Frontenac	8	Grey	17
Lennox & Addington	2	Perth	10
Prince Edward	12	Huron	15
Hastings	22	Bruce	22
Northumberland	16	Middlesex	24
Durham	8	Elgin	21
Peterborough	10	Kent	13
Victoria	8	Lambton	16
Ontario	14	Essex	4
York	27	Algoma	2
Peel	4	Muskoka	1
Simcoe	23		
Halton	5	Total	454
Wentworth	4		

DIVISION VII.

INSPECTION OF PUBLIC (INCLUDING INDIAN), B. C. SEPARATE,
COUNTY MODEL AND HIGH SCHOOLS.

1.—PUBLIC SCHOOL INSPECTION.

1. *List of Public School Inspectors.*

NAME.	JURISDICTION.	POST OFFICE.
Donald McDiarmid, M.D.	Glengarry	Athol.
Alexander McNaughton	Stormont	Cornwall.
Arthur Brown	Dundas	Morrisburg.
Wm. J. Summerby	Prescott and Russell	Russell.
Odilon Duford	" " Assistant for French Schools	Curran.
Arch Smiley	Carleton	Ottawa.
Robert Kinney, M.D.	Leeds and Grenville No. 1, and Town of Brockville	Brockville.
Rev. George Blair, M.A.	Leeds & Grenville No. 2, and Town of Prescott	Prescott.
Frank L. Michell, M.A.	Lanark and Towns of Almonte, Perth and Smith's Falls	Perth.
R. George Scott, B.A.	Renfrew, Town of Peabroke, and District of Nipissing	Pembroke.
John Agnew, M.D.	Frontenac	Kingston.
Frederick Burrows	Lennox and Addington, and Town of Napanee	Napanee.
Gilbert D. Platt, B.A.	Prince Edward and Town of Picton	Picton.
William Mackintosh	N. Hastings	Madoc.
John Johnston	S. Hastings, City of Belleville and Town of Trenton	Belleville.
Edward Scarlett	Northumberland and Town of Cobourg	Cobourg.
William E. Tilley, M.A.	Durham, and Towns of Bowmanville and Port Hope	Bowmanville.
James Coyle Brown	Peterborough	Norwood.
C. D. Curry, B.A.	Haldimont	Minden.
James H. Knight	E. Victoria and Town of Lindsay	Lindsay.
Henry Reazin	W. Victoria	Linden Valley.
James McBrat	Ontario and Town of Whitby	Myrtle.
James Hodgson	S. York	Toronto.
David Potheringham	N. York and Town of Newmarket	Aurora.
Donald J. McKinnon	Peel, Town of Brampton, and City of St. Catharines	Brampton.
Rev. Thomas McKee	S. Simcoe and District of Muskoka	Barrie.
James C. Morgan, M.A.	N. Simcoe, and Towns of Barrie, Orillia, and Penetanguishene	"
Robert Little	Halton, and Towns of Milton and Oakville	Acton.
Joseph H. Smith	Wentworth, and Town of Dundas	Ancaster.
Michael Joseph Kelly, M.D.	Brant, City of Brantford and Town of Paris	Brantford.
James B. Gray	Lincoln and Town of Niagara	St. Catharines.
James H. Ball, M.A.	Welland and Town of Thorold	Thorold.
Clarke Moses	Haldimand	Caledonia.
James J. Wadsworth, M.A., M.B.	Norfolk and Town of Simcoe	Simcoe.
William Carlyle	Oxford, and Towns of Ingersoll, Tilsonburg, and Woodstock	Woodstock.
Thomas Pearce	Waterloo, and Towns of Berlin and Galt	Berlin.
David P. Clapp, B.A.	N. Wellington, and Towns of Harriston, Listowel and Mount Forest	Harriston.
J. J. Craig	S. Wellington	Fergus.
Nath Gordon	Dufferin and Town of Orangeville	Orangeville.
Thomas Gordon	W. Grey and Town of Owen Sound	Owen Sound.
Wm. Ferguson	S. Grey and Town of Durham	Preeceville.
Andrew Grier	E. Grey	Thornbury.
William Alexander	Perth, and Towns of Mitchell, Palmerston, St. Mary's and Stratford	Stratford.
John R. Miller	S. Huron and Town of Goderich	Goderich.
D. M. Malloch	N. Huron and Towns of Clinton, Seaforth and Winham	Clinton.
W. S. Clendening	E. Bruce and Town of Walkerton	Walkerton.
Alexander Campbell	W. Bruce and Town of Kincardine	Kincardine.
John Dearness	E. Middlesex and Town of London East	London.
Joseph S. Carson	W. Middlesex and Town of Strathroy	Strathroy.
Welbern Atkin	Elgin	St. Thomas.

List of Public School Inspectors.

NAME.	JURISDICTION.	POST OFFICE.
Edmund B. Harrison	E. Kent, and Towns of Bothwell, Dresden and Ridgetown	Ridgetown.
Wilmot M. Nichols, B.A.	W. Kent	Blenheim.
Charles A. Barnes, B.A.	Lambton No. 1.	Forest.
John Brebner	Lambton No. 2, and Towns of Petrolia & Sarnia	Sarnia.
Theodule Girardot	Essex No. 1, and Town of Sandwich	Sandwich.
D. A. Maxwell	Essex No. 2, and Town of Amherstburg.	Amherstburg.
Peter MacLean	Districts of Algoma and Parry Sound, and Towns of Port Arthur and Rat Portage ..	Milton.
James L. Hughes	City of	Toronto.
W. H. Ballard, M.A.	"	Hamilton.
Rev. Robert Torrance	"	Guelph.
W. G. Kidd	"	Kingston.
J. B. Boyle	"	London.
John C. Glashan	"	Ottawa.
John McLean	"	St. Thomas.
Rev. A. McColl	Town of	Chatham.
Rev. R. Rodgers	"	Collingwood.
R. B. Carman, M.A.	"	Cornwall.
Rev. Geo. Washington	"	Meaford.
Rev. James Gordon, M.A.	"	Niagara Falls.
Rev. S. H. Eastman	"	Oshawa.
James Stratton	"	Peterborough
Thomas Hilliard	"	Waterloo.
Richard Harcourt, B.A., M.P.P.	"	Welland.
J. C. Patterson, M.P.	"	Windsor.

2. Roman Catholic Separate School Inspectors.

James F. White, Toronto.

Cornelius Donovan, M.A., Hamilton.

3. County Model School Inspector.

John J. Tilley, Toronto.

4. High School Inspectors.

John E. Hodgson, M.A., Toronto.

John Seath, B.A., St. Catharines.

2. Extracts from Reports of Public School Inspectors.

COUNTY OF CARLETON.

Extract from Report of A. Smirle, Esq., Inspector.

The County of Carleton, as you are aware, ranks among the larger inspectorates of the Province, and its schools, as far as I am able to judge, present a diversity in extent of accommodation, efficiency and outfit, greater than almost any other. You will see from my report that there are all kinds of school-houses, from the stately brick edifice with its airy rooms and ample grounds, to the log cabin by the roadside, with its scanty furniture and forbidding appearance. Of this latter class there are not a few, and strange to say, many of them belong to the older and wealthier sections of the county; I have no doubt,

however, but a few years at most, will see these replaced by good substantial buildings. In several cases I have already called the attention of trustees to the inadequacy of the accommodation, and I am glad to report that my suggestions in this respect have led several sections to make preparations for building during the ensuing summer.

In the matter of attendance, the schools vary as much as in the character of the buildings, the lowest average being about seven, whilst the highest reaches 163: it should be stated, however, that the small attendance in some of the sections is due to circumstances over which the people have no control. In many parts of the county there are large tracts of uninhabited land, with a few settlers scattered over wide areas, rendering it impossible to bring a sufficient number within reasonable bounds to form even a fair section; such schools, for the present, and indeed for years to come, must be allowed considerable discretion in the matter of employing qualified teachers and providing adequate accommodation. As will be seen by the statistics recently furnished your department, these are the sections paying the highest rate in the dollar for Public School purposes, and also the sections receiving the least aid from the School Fund of the Province. Generally speaking, however, the attendance is irregular, and notwithstanding what the statistics from trustees' reports may show, I believe there are large numbers of children, through indifference on the part of parents, foregoing the privileges which our educational system so liberally offers. "Compulsory education" does not seem to have accomplished anything, as yet, in the County of Carleton.

In regard to efficiency and attainments, our schools take an exceedingly wide range. Whilst many of the suburban, and not a few of the rural schools, are carefully graded and systematically classified; others again, totally ignore both gradation and classification. In the former I usually find the prescribed limit for the first four classes of the Public School course, fairly completed; but in the latter the pupils are allowed, in a great degree, to follow their own inclinations; producing results as varied as they are unsatisfactory. I do not here speak of the few cases in which an exact classification is impossible; but the many, where reading alone is made the basis of promotion, and where the teacher affirms that it is the only system that will satisfy the parent. I frequently meet with Fourth and Fifth Class pupils (so called) in schools where this system prevails, who in other subjects than reading and spelling, fail completely within the limits of Second Class work. I have endeavoured during my official visits to point out to teachers the wisdom of conforming to the prescribed course as closely as possible, and have at the same time endeavoured to impress upon the minds of the people that this is the only method by which the full advantages of the system are attainable.

The total number of teachers employed in the county during 1883, was 130. In this number we have one First Class Provincial; twenty-seven Second Class Provincial; and seventy-three Third Class Certificates; the remaining twenty-nine are chiefly Inspector Permits and Temporary Certificates. I regret exceedingly to have to report so many of this latter class—nor can I at present see any way in which the number can be reduced; indeed the year 1884 will show an increase, rather than a decrease, in this respect. Two causes operate to produce this result: 1st, the scarcity of qualified teachers; and 2nd, the desire on the part of trustees to keep down the school rates, which you will see from previous reports on this subject, are about as high in the poorer sections as the people can be reasonably expected to bear.

In reference to "Permits," I take the liberty of expressing my dissatisfaction with the present mode of obtaining them. Three steps appear to be necessary: first, the trustees' requisition; second, the Inspector's recommendation; third, the approval of the Hon. the Minister of Education.

In regard to the first it may be safely stated, that trustees are sometimes influenced in signing the requisition by personal friendship for the applicant, but more frequently, with a view to secure a cheap teacher. Instead of stating "we cannot get a qualified teacher," it would be more correct in many cases were it stated, "we cannot get a qualified teacher for \$200 a year." It is true there is a scarcity of certificated teachers, but in my opinion it will continue so, unless a reasonable remuneration be offered to those who are able and willing to qualify themselves for such an important work. Viewed from this standpoint the teaching profession offers no inducement to persons of even average ability.

In the second place, the Inspector must accept the trustees' statement and comply with their request; or he must openly express doubt and refuse; which in most cases is sure to cause hard feelings, and not unfrequently to lead to charges of partiality, favouritism, etc.

The approval of the Hon. the Minister of Education will depend very much upon the Inspector's recommendation, and here rests the whole responsibility. I, for one, feel that this is a matter of considerable moment. That one-fifth, or perhaps more of the teachers in any inspectorate should have no other certificate of qualification than a Permit, seems to me a state of affairs inimical to the educational interests of the country. Generally speaking, so far as my experience goes, I have not found the schools taught by permitted teachers equal to those taught by trained teachers—notwithstanding the fact that the employers of such (permitted teachers) have taken great pains to inform me that "they are perfectly satisfied;" and that in their opinion "the work is just as well done as when they had a second class teacher at twice the salary."

In suggesting a remedy for this evil, it should be borne in mind that it is most desirable to do away with all such certificates at the earliest period consistent with the actual requirements of our schools; and in order to accomplish this gradually, the mode of obtaining them should be made as difficult as possible. Let trustees deal directly with the Department. It is an easy matter to apply to the Inspector, let him do all the correspondence, pay the postage, etc.; but if trustees had to attend to these matters, they would think seriously before entertaining such an application. My short experience would lead me to believe, that to meet all cases, the form of application should be amended, so that trustees would be obliged to state that they have advertized for a teacher, and offered a salary of \$ ——— per annum. It should also be distinctly understood that no such application could be entertained until after the 3rd of January in each year; this is necessary to prevent the holders of Permits from entering into competition with trained teachers. On receipt of the requisition, a set of papers should be sent the Inspector, that the candidate may undergo an examination as to qualifications and fitness for the work.

I am pleased to be able to report the reopening of the County Model School, New Edinburgh, with a full staff of legally qualified and efficient teachers. I think I can say with safety that it comes up to the requirements of the law in almost every particular. The students in training last term, eleven in number, all passed a creditable examination on the various subjects of the prescribed course. As far as possible, the examination was conducted in writing, and the results on the whole gave clear indications of the work having been done efficiently. The examiners were unanimously of opinion that Model Schools constitute one of the important features of our education system.

Our Teachers' Association is now in a fair way to become useful, and I hope through this agency to be able to accomplish many little reforms in the internal working of the schools of the county, that it would be difficult to obtain in any other way.

I endeavour, in all cases where the school demands it, to devote a half day to the examination of the classes; of course this does not suffice for a complete inspection of the school, but, as a rule, it enables one to make a fair estimate of the work done, and to get a general idea of the discipline and management of the institution. I am of opinion, however, that one whole day visit in the year to each school would be preferable to the half-day system. In my addresses to the children, which I consider a very important part of the work, I have endeavoured to keep before their minds, that school is the place above all others where the foundation of character is laid; and whilst education and refinement are very desirable, still they are but instruments of evil when disassociated from a high standard of morality. I have specially tried to encourage a love for the truth, for school, for home and its associations. In these respects I feel that the Public School Inspector may, without giving offence to any, accomplish a great deal of good.

COUNTY OF LANARK.

Extract from Report of F. L. Michell, Esq., Inspector.

The year has been one of educational progress. Though our supply of legally-certificated teachers was insufficient, the majority of those temporarily certificated were good

scholars, and fairly successful as teachers. The improvement of the School Property, etc., referred to in my last report, has gone on apace, and the greater number of our schools are now in good condition in this regard.

It is a matter for regret that a greater effort is not made to secure a small but select public library in each school section. The cities, with their large lending Libraries, the towns, with their Mechanics' Institutes, are well provided, but the country boy who has just tasted the "Pierian Spring" is compelled to satisfy the restlessness of an active brain with books of the lowest class—of the dime novel variety. A small sum of money annually expended would form and keep up a respectable school library, adapted to the requirements, not only of the pupils, but those of more mature mind. A good public library is undoubtedly the "missing link" in our school system: a single purchase will not do: the addition must be well selected and continual. Much of the money expended in the purchase of prize books is raised by concerts and entertainments of that character, and the proceeds do not appear on the books of the Secretary-treasurers of the schools. Prizes were distributed in 74 of the schools during the year. The highest salary paid any teacher in the townships and villages in the county was that of the headmaster of the Public School, Carleton Place (\$600): the lowest salary paid a male teacher was \$230. Owing to a deficiency in the supply of such teachers we are compelled to grant temporary certificates: the holders of these certificates having spent less time and money on their education, are able to teach for a small salary. I have already called your attention to the small number of professional teachers engaged in the calling. The sooner the salaries are made large enough to induce more to make teaching a profession, the sooner will the school attain that rank and character now earnestly hoped for by all workers in the most important problem of the age—national education. The present system is a mere experiment, and must continue to be such, until *Teachers* are placed in charge of our schools: not mere school girls, and medical and other students, who intend to make a stepping stone of the occupation to something better. One hundred and fifty-seven teachers were engaged during 1883, classified as follows:

Provincial First Class.....	2
" Second Class.....	19
Old County First Class.....	6
New County Third Class.....	107
Temporarily certificated	23
	<hr/>
	157

Temporary certificates can only be granted by the consent of the Minister, and upon special grounds: they are never given unless the supply of regular teachers proves inadequate. Owing to the smallness of the salaries and the difficulty of obtaining a legal certificate, the number of permits has largely increased. The only remedy seems to be the re-establishment of the County Board Examinations, and the cancelling of the clause which makes Third Class Certificates, Provincial. Until something of this kind is done, the poorer counties will be badly supplied with Third Class, and the richer with Second Class Teachers: because the Third compete with the Second, thus leaving the permit to compete with the County Third.

The school houses and premises are being generally improved. During 1883, the rate-payers generously responded to the demand for better accommodation. New school-houses were built in S.S. No. 3 (u), Darling, and No. 8 (u), Dalhousie, and the schools in a great many other sections were thoroughly repaired. We are yet far from perfection in this matter: inconvenient desks, inadequate accommodation, inattention to heating and ventilation, are of too frequent occurrence in our schools. In spite of the hygienic lectures at the Model School, in spite of repeated reports from the Inspector, the greatest carelessness continues respecting school ventilation and cleanliness: in too many schools not only are the windows kept closed during the night, but closely fitted wooden shutters are added, so as to render the access of fresh air doubly impossible. The following simple hygienic recipe, if observed by our teachers, would prevent many of the ills now prevalent among school children:—"Admit as much light and air as possible, compatible with the

comfort of the pupils while at work, and be sure to allow a continuous supply of both to be freely admitted during the time that the school is not in operation: " by lowering the windows from the top and raising the blinds in the evening, these results are easily attainable. Trustees, as guardians of the public health, should see that the schools are regularly cleaned and ventilated.

The pupils enrolled are classified as follows :

Number in First Class Work of programme.....	2247
“ Second “ “	1560
“ Third “ “	1601
“ Fourth “ “	902

The number in the principal branches of study :

Spelling and Dictation.....	5353
Writing.....	5106
Arithmetic.....	5439
Geography.....	3258
Object Lessons.....	1776
Grammar and Composition.....	2682
History	1145
Drawing	1707

A very large percentage of the pupils of our public schools is employed upon the elementary branches of instruction : but in too many cases these subjects are not taught with a view to developing and invigorating the child's mind, and inducing that culture which will tend to make the pupil capable of thinking and acting for himself when called upon to play his part upon the great stage of life. The *rote* system still prevails, and is unfortunately being perpetuated by many of our text books, whose aim appears to be rather to do the teachers' work, than to be the means by which it is to be done.

The reported School Population for 1883 was as follows :—

Number of pupils under 5 years.....	19
“ “ between 5 and 16.....	6328
“ “ 17 and 21.....	66
“ “ over 21.....	5

Total who attended..... 6418

Of these 3319 were males and 3099 females.

The duration of attendance may be thus represented :—

Number who attended less than 20 days.....	575
“ “ “ between 20 and 50 days.....	982
“ “ “ 51 and 100 days.....	1541
“ “ “ 101 and 150 days.....	1513
“ “ “ 151 and 200 days.....	1462
“ “ “ over 201 days.....	345

Total who attended 6418

Furthermore, 65 are reported as not having attended any school, and 1638 as having failed to attend the 110 days prescribed by law. The above figures clearly show that the "compulsory clause" is inoperative. The average daily attendance for 1883 was 2992, or only *forty-seven* per cent. of the number enrolled : the necessity for some more effective

remedy for this state of things is generally admitted: we are, however, not the worst in this particular, as the general report shows *forty three* as the average for the Provincial rural schools.

The average number of days during which the school was kept open was 213. Burgess heads the list this year (1883) with 218 out of 222, and Montague comes last with an average of 204.

Every school in the county was visited by me at least twice; some, three or four times. The whole number of visits reported was 1060, of which 269 were by trustees. Much good would doubtless result from a regular and systematic method of visitation by the members of the local Boards.

The report shows 200 as the number of examinations held during 1883: these, too, are as a general rule badly attended: though due notice is given, the people take but little interest in such gatherings. The law requires that such examinations should be held at the end of every quarter.

A system of uniform examination has been established in the schools of the towns of the county, with very satisfactory results: it is a matter of regret that some such method does not prevail throughout the rural schools. The hap-hazard plan of promoting at present in vogue, is most unsatisfactory.

The entrance examinations have become the recognized test for promotion into the Fifth Class: two are held annually in the several High Schools of the county. In June of 1883, one hundred and seventy seven candidates presented themselves, of whom one hundred and two were successful: in December one hundred and sixty-six presented themselves, and eighty-two were successful.

The County Model School is an important factor in our school system: its object is to give instruction and practice in the theory of, and actual work of teaching. *Eighteen* candidates received instruction at the Model School in 1883, of whom *twelve* are now teaching in the county, and *six* elsewhere.

Two meetings of the Teachers' Association were held during 1883:—one at Almonte in May, and the other at Perth in October; the attendance was large on both occasions, and the work for the most part of a practical character. The library in connection with the Institute is neither kept nor distributed as well as it ought to be, owing to the want of a suitable room for keeping the books. The general circulation of these valuable works among the teachers, would necessarily be productive of good results.

COUNTY OF HALIBURTON.

Extract from Report of Charles D. Curry, Esq., Inspector.

There are now forty-nine schools, employing fifty teachers, in operation in this county. I am of opinion that this number will be but slightly exceeded for a number of years. In fact at the present date there is no settlement in the county without its school-house; or where preparations are not being made to erect one. In some instances this desire for school accommodation has led to the formation of weak sections; but in these cases it has generally been a question of a weak section or no school whatever.

The amount received for school purposes during the year foots up to \$12,700, and the total expenditure is reported at \$10,517, a slight increase over that of 1882: of this amount, \$10,524 were raised by local effort, *i.e.*, trustees and municipal rates. I have drawn attention to these figures to show that notwithstanding the depression at present existing, especially in districts depending so largely upon the lumber interest; and notwithstanding the very heavy municipal and railway bonus rates levied throughout the county; our people are fully alive to the necessity of doing all that lies in their power for the education of the rising generation.

I am pleased to be able to state that in the character of the work done, a steady improvement is manifested. Reading is in general well taught, and the drawl and drone

of a few years ago, are now almost things of the past. Writing and Arithmetic have also received more attention, and show considerable improvement.

The scarcity of professional trained teachers continues to be felt; but until the circumstances of the county improve, so that fair salaries can be paid to teachers, I am afraid that this drawback will continue. As soon as any of our teachers develops the qualities that ensure success, more inviting fields are looked out; and at the present moment teachers are occupying important situations in some of the towns of Ontario, in Winnipeg, Brandon and other places in the North-West, who received their preliminary training, and had their first experience of the work of the profession in the County of Haliburton.

COUNTY OF YORK, NORTH.

Extract from Report of D. Fotheringham, Esq., Inspector.

It is now over twelve years since the administration of school matters was put into the hands of County Inspectors, and since the law and regulations were so modified as to start the Province on what may be called the "new era" in Public and High School work. The period since 1871 is so considerable as to justify the hope of reaching conclusions at once reliable and suggestive. I shall, therefore, state briefly, reliable statistics of the Inspectorate in 1871 and 1883, and therefrom hope to draw hints of some value for the future.

	1871.	1883.
School Population (5 to 16)	8,321	7,100
Average attendance of those enrolled	37 $\frac{1}{4}$ %	45%
" Pupils to each Teacher	105	70
" Cost per Pupil	\$5.45	\$6.65
Teachers employed—Male	60	65
" " Female	25	36
" Normal Trained	20	48
Salaries—Total, Male	\$21,680	\$27,614
" " Female	6,081	9,585
" Average, Male	361.33	424.83
" " Female	243.25	265.62
Certificates—Provincial First Class	2	3
" " Second Class	18	48
" O. C. Board	42	6
" N. C. "	21	43
" Interim	2	1
Income for School purposes	\$45,392	\$ 52,825
Value of School property	71,000	150,000
School Corporations or Boards	71	79
" Sites, Adequate	31	79
" Houses	71	82
" " Brick	14	26
" " Frame	53	56
" " Log	4	0
" " Erected in 12 years	00	44
" " Enlarged in 12 years	00	26

It is evident from this comparative statement, that on the whole there has been gratifying progress in nearly every direction.

The number of School Corporations has been increased by eleven per cent., and the number of teachers by nearly nineteen per cent., thus bringing school privileges within reach of many, before unable to attend.

School property has been almost entirely renewed, and more than doubled in value ; while the new accommodation is much superior to, and much greater than the old ; and, taking one school with another, is considerably above the requirements of the law.

Most schools are fairly supplied with appliances, which was emphatically not the case twelve years ago.

Equally satisfactory has been the improvement in the teaching staff, in training, efficiency and appreciation : the number trained in the Normal Schools, and the increase in average salary, sufficiently sustain this statement.

The same conclusion is reached through other evidence—the more thorough classification of pupils ; the steadily increasing number passing from the Public to the High Schools ; the higher record at inspections ; and the existence of an efficient Teacher's Association and a professional library.

Having thus briefly attended to the encouraging features of the record of the past twelve years, I now turn to the less favourable ones :

1. *Irregular Attendance.*—The percentage of attendance, though advanced by nearly twenty-five, is still below one-half of those enrolled : this means that more than half the money and labour expended on the schools are wasted. Not only do those entering the schools miss, on an average, one day out of two, but they also retard the work and neutralize the best efforts of the teacher, to a most serious extent.

2. *The Transitory Character of the Profession.*—Out of the first, the clamant evil and drag of the Public School system, arises largely this, the second in magnitude ; without always tracing their discontent to the real cause, both parents and teachers seek a change, to reach, if possible, better results from their expenditure of means and effort ; and so nearly half the schools change teachers every year : nearly one-fourth of the results being in these cases again sacrificed, as a new teacher cannot immediately, or even in a few weeks, push forward the work, as one whose authority and methods are well established.

3. *Defective School Board Administration.*—The most thoughtful find another source of weakness to the system, in the character of the Boards that administer it, however well intentioned and useful they have been : they change too rapidly ; they are unremunerated, and cannot be held to the duties of their office as paid officers could be ; neither can it be supposed that ten to twenty efficient Boards can as easily be provided for the schools of a township, as one competent Board for the whole, though even larger.

4. *Heavy but Ineffective Expenditure.*—While the expenditure per pupil in the Public Schools, \$6.65 per head, compares favourably with that of High Schools, in which it is four times that amount, it is still in the aggregate very heavy, especially as more than half is entirely wasted through irregular attendance alone. At that rate, the County of York is losing \$50,000 a year, and throughout Ontario the amount of school moneys made ineffective must amount to more than one million.

5. *Inequality of Taxation.*—Though from various reasons little popular complaint is made against the serious inequality of taxation, there can be no doubt that the efficiency of Public Schools is greatly impaired by this evil. The most needy and the least able are as a rule the most heavily taxed, where the whole country is interested and has assumed the responsibility of regulating Public School education.

6. *Hampered Inspection.*—It has become a question with many whether recent legislation and regulations have not seriously hampered the efficiency of county officers appointed to administer the law : who, on the whole, are acknowledged to have performed with much energy and prudence, the delicate task of enforcing the requirements of the Act of 1871. For example, who are likely to be equally competent and impartial in allowing options in the course of studies, and deciding what shall and what shall not be taught of the programme ? certainly not rural Trustee Boards ; and yet the control of the course of studies has been given entirely to them.

In another respect it may be fairly, and at the present juncture, pertinently asked, if the same officials are not seriously hampered by the provisions for their appointment, dismissal and remuneration, through a popular body in no way specially qualified to judge of the merit of the services rendered, and held more strictly to account for economy than

efficiency in such services. It would therefore appear from the considerations named, and from others adducible, that—

1. The enforcement of the compulsory clauses of the school law should not be left longer, inoperative: an absentee officer should be appointed for each inspectorate, armed with sufficient, but not arbitrary power.

2. That tangible inducements should be held out to the teaching profession to make it a life-long occupation.

3. That a system of Township or District Boards should be established.

4. That schools should, throughout a Township or District, be supported by a uniform rate of taxation.

5. That important executive officers should be held responsible to the Government or other competent body; and one less mutable than such as are elected annually, largely through municipal if not political, rather than educational, interests and influence.

COUNTY OF BRANT.

Extract from Report of M. J. Kelly, Esq., M.D., Inspector.

The Public Schools of this county are not only holding their own, but are steadily progressing. The Entrance, Intermediate and other examinations, have had a marked effect on their advancement.

The uniform promotion examinations in the Public Schools, which this county was among the first in the Province to adopt, have been of good service; though I think it is possible to render them still more serviceable, and beneficial to the cause of elementary education. The preparation of the papers has heretofore devolved mainly on the Inspector, and this year entirely; while the supervision of the candidates and the examination of their answers, have been entrusted to the teachers in the several sections. I have made an attempt to re-examine the answers, but the task has proved too onerous for the time at my disposal. The present system, as I have hinted, is not wholly satisfactory. If the answers were submitted for inspection and valuation to a Central Board of Examiners—say the existing County Board—and a change in the supervision were at the same time made, the results would unquestionably be more reliable; but this would involve additional expense, which should not be incurred if it can be safely and reasonably avoided. Under the circumstances I cannot at present recommend any change. The question will probably come before our County Convention at its next session, when those who are principally interested in it, will have an opportunity of expressing their views. In consultation with the teachers I find the opinion generally prevailing that there should be two promotion examinations each year—in March and November—instead of one as hitherto, the Fall examinations not to extend beyond the Third Class: this has been the custom for many years in Brantford and Paris, and it is presumed it would work equally well in the rural schools of the county.

The amount spent for libraries and prize books was more than double that spent for the same purposes in 1882: still something more might be profitably expended in these directions. The Government grant shows a slight increase (\$12) over that of 1882: it is less in the three smaller townships, more in the two larger. This grant has been growing less for some years back in the older counties of the Province, a circumstance which is probably owing to the extension of school accommodation to Muskoka, Algoma and other unorganized districts of Ontario. There was an increase—a small one—(\$25) in the Municipal grant over that of the previous year. The increase of the Municipal grants would proportionately diminish the inequalities in the local rates of taxation for school purposes in the several school sections of a township, and would, of course, lessen the local rates all round.

The number of teachers in the rural schools of the county holding First Class Provincial Certificates in 1883, was three, namely :—the Principals of St. George and Scotland Public Schools, and the Master of Middleport school. The number holding Second Class Provincial Certificates was thirty-five ; holding Third Class Certificates, 25 ; First Class Old County Board Certificates, three, and Interim, one. Temporary Certificates are granted only when the supply of regularly qualified teachers is inadequate. A couple of years ago, Third Class Certificates obtained after 1881 were made valid throughout the Province, without the endorsement of the Inspectors ; I do not know who inspired the change, but I am strongly of opinion it should never have been made. The whole amount paid in salaries during the year to the rural school teachers of the county, was \$25,716.59. The highest salary paid a male teacher, was \$600 ; the lowest, \$300 ; the highest paid a female teacher, \$400. The salaries are not yet quite what they should be, although in this respect Brant compares favourably with the majority of the counties of Ontario, and ranks much higher than similar municipalities in the great Republic south of us. Here the school terms cover the whole year, but in the United States the school terms in the rural schools average about six and a half months ; and, according to the Hon J. P. Wickersham, State Superintendent of the great and rich Commonwealth of Pennsylvania, there the average man receives \$250, and the average woman \$175 per annum for the average school term of 6½ months. It is needless to say that neither teachers nor schools will bear any comparison with those of Ontario. That the educational progress, in this Province during the last twelve or thirteen years has been great—is indeed, unparalleled—admits I think of no denial. If then we are to keep up the rate of progress, we must continue to keep in the profession of teaching, men and women of energy, skill and ability ; and to do this we must adequately pay for their services. If salaries are better now than they were twenty years ago, it must be remembered that the cost of living has also increased in the interval, and the cost of obtaining a certificate as well. Formerly a very small percentage of the teachers of the Province received any professional training ; and those that did receive it, not only got it for nothing, but were allowed \$1 a week for their board while undergoing it ; now ALL must be trained either in a County Model School for three, or in a Normal School for five months ; paying, in some cases, as in our County Model School, a fee of \$5, and receiving no indemnity for board. So the expense of professional training has very considerably increased, as well as the difficulty of that part of the candidate's work. It will hardly do for us at this stage to go back to the "Dames' schools" that prevailed in England in the last century, where "old ladies who knew nothing taught the children of the peasantry ALL they knew."

The reported school population of the county (rural schools), for 1883, was as follows :

Total number of children under 5 years of age.....	4
" " between 5 years and 16.....	4,315
" " " 16 " 21.....	136
" " enrolled in the county.....	4,455
Boys	2,349
Girls	2,106

721 pupils were reported as not having attended any school four months during the year. The compulsory clause of the School Act has not been put in force, so far as I have learned, anywhere in the county.

The number of pupils in the First Class was 1,259 ; in the Second Class, 1,033 ; in the Third Class, 1,168 ; in the Fourth Class, 785 ; in the Fifth Class, 185 ; and in the Sixth Class, 25. In order to insure a better classification, uniform promotion examinations were inaugurated a few years ago.

Prizes were distributed only in twenty of the Public Schools in 1883 : this diminution in the number of prizes is doubtless due to the withdrawal of the 100 per cent. formerly allowed by the department on prize books. The value of prizes as an incentive to study, and as an educative force, has long been a matter of controversy among instructors of youth : some of the best teachers and most thoughtful trustees are beginning to consider the stimulus of prize-giving an unhealthy one, as unsatisfactory and ineffectual, and too

frequently productive of bad feeling among the pupils themselves, as well as between pupils and teacher. It would be better to use the money to supplement the libraries already existing, to found new ones, or to furnish the school rooms with neatly framed and appropriate mottoes, chromographs, etc.

The total number of visits made to the schools during the year was 1,345; of which 174 were made by the Inspector, and 228 by the Trustees. The number of public examinations was eighty-three.

Two meetings of the Teachers' Institute were held during the year, in June and November, each lasting two days. At the June session, in addition to the regular ordinary work of the convention, Mr. W. H. C. Kerr, M.A., read a valuable and most instructive paper on "the origin of language," and the Misses Hollinrake, Morice and King conducted classes in Kindergarten games and singing: at the November meeting, Mr. James Mills, M.A., President of the Agricultural College, Guelph, favoured the Institute with an excellent lecture on "What should be taught in a Public School, and how the teaching should be done," emphasizing the importance of English composition and the elements of agriculture.

Town of Paris.

The nine departments in the Public Schools of Paris have been satisfactorily managed during 1883. The year closed with a balance in the Trustees' hands of \$3,206 73. The amount paid in salaries was \$2,350. There is but one male teacher in the Public Schools—his salary is \$600 per annum. The highest salary paid a female teacher was \$300; the lowest, \$375; average, \$287.50. The number of pupils enrolled was 687. The average attendance for the first half year was 406; second half, 355. The usual quarterly percentage of attendance was about 80. The progress of the several divisions is encouraging, and the order and discipline all that can be desired. A good school library is a desideratum, and the walls of the several rooms might be adorned with suitable chromographs to advantage. These improvements and others will, I have no doubt, be made in good time.

During the mid-summer holidays the school buildings were very much improved. The large Central School was painted brown externally, with diamond ornamentation over the doors and windows: many of the rooms were refloored and supplied with new seats and desks. The Ward schools were similarly improved. Since the mid-summer holidays of 1883, all the primary rooms in the Central have been refurnished, and the Model School room has been elegantly equipped. The Buildings and Grounds Committee, with the Chairman thereof, are never weary of making improvements when and where needed: indeed, our present City Board of Trustees is indefatigable in its labors. I have never known the schools to be so frequently visited by members of the board as during the year 1883.

COUNTY OF WELLAND.

Extract from Report of James H. Ball, Esq., Inspector.

Village of Chippawa.

Accommodations.—The school-house is of brick, and has two capacious and comfortable rooms, each provided with a lobby. The building is in excellent condition; the walls and ceilings white and clean; the floors well swept and scrubbed; and the windows all in good order. The ceilings being high, the windows extending well up to the ceiling, and being only on the two opposite sides of the school rooms, the lighting is good; and by lowering the upper sashes ventilation is afforded without subjecting the pupils, to a dangerous extent, to draughts of cold air.

The schools are well supplied with maps, blackboards, etc., and the furniture is good and suitable; that in the master's department being of the most approved pattern. In both departments suitable mottoes neatly framed are suspended from the walls, and in the

master's department also, a few choice engravings. An excellent library is maintained for the use of the ratepayers and pupils, and it is well patronized.

The school lot comprises an acre, and is in good order: the drainage is good, and the fences, closets and sheds all in fair order: a well is provided, but at my last visit the water was not good, the well probably needing cleaning.

Teachers.—The school is taught by two teachers; monitors have also been employed to a considerable extent. Until the latter part of last year, Mr. Chas. J. McKenzie was, for about fourteen or fifteen years the master; and for a number of years Miss Jane A. McKenzie was assistant; both of whom have now retired from the profession. Upon the resignation of the latter, an assistant's certificate was granted, in accordance with an application from the Board of Trustees, to Miss Legu, who had passed the Intermediate Examination in 1883. Though not in favour of supplying the schools with untrained assistants, deference to the wishes of the members of the Board, who, I understand, were actuated by motives of economy, led me in this case (as also in that of Fort Erie, where an untrained assistant, or rather monitor, is now employed), to grant a certificate.

Pupils.—The number of pupils enrolled during last year was 154, and the average attendance 84. The organization was good: oral and written examinations were held: the pupils properly clad and cleanly in appearance: in their manners respectful and polite; and apparently attentive and industrious. The order and discipline were excellent, and the state of proficiency correspondingly good. I have always regarded the Chippawa Public School as one of the best managed and most efficient schools in the county.

Village of Fort Erie.

Accommodation.—The school has two commodious rooms suitably furnished and equipped, the basement being used for the junior department until the latter part of last year, when a set-off from the Master's room was constituted a class-room, all the pupils being seated in the Master's room. The school-room is in good condition, the heating, lighting and ventilation satisfactory: except as regards the class-room, which, not being provided with a stove, is scarcely warm enough: the yard, though rather contracted, is kept in good order, as also the fences, closets and sheds: shade trees are planted, but there is no well. Among other requirements is a School Library.

Teachers.—The Master, Mr. Geo. A. Clark, holds a Second Class Provincial Certificate, and has had a Normal School training: a Monitor is employed to teach the junior classes, an arrangement made during the latter part of the year for economical reasons: previously an assistant holding a Third Class Certificate had been employed.

Attendance.—The number of pupils enrolled during the year was 158, and the average attendance, 62.

Village of Niagara Falls, South.

This school may be briefly described as being at the head of the schools of the county, both as regards accommodations and mastership. The buildings and grounds are of a normal character, and the master stands first in his profession. There are two assistants. The number of pupils enrolled was 290, and the average attendance, 133.

Village of Port Colborne.

The Port Colborne Public School is a commodious two storey building, suitably furnished and equipped. It consists of three departments: the Master being Mr. Donald W. McKay, who holds a First Class Old County Board Certificate; the First Assistant, Miss Martha C. Brown, who holds a Second Class Provincial Certificate, and has received a Normal School training; the Second Assistant, Miss Catharine Foster, with a First Class Old County Board Certificate.

The number enrolled during the year was 242, and the average attendance, 133.

The yard, fences etc., were all in order, and shade trees growing.

The teachers are painstaking and hard working, and Mr. McKay's department is one of the most efficient in the county; his order, discipline and management, excellent.

DISTRICTS OF ALGOMA AND PARRY SOUND.

*Extracts from Report of P. MacLean, Esq., Inspector.**District of Algoma.*

Number of School Sections.—The total number of school sections in the district was eighty-three, being an increase of nine over last year: they are located as follows:—thirty-five on the Great Manitoulin; two on Cockburn Island; one on Barrie Island; seven on St. Joseph's Island; twenty-nine on the north shore of Lake Huron and Georgian Bay; six on the north shore of Lake Superior, and three on the shores of Lake of the Woods.

Schools in Operation.—The total number of schools in operation during the year, or portions of the year, was seventy, being an increase of eighteen over last year. There are still thirteen school sections in which no school has yet been opened, being but recently organized, and their school-houses not yet completed. Besides the Public Schools, there are in the district two Roman Catholic Separate Schools, and about nineteen or twenty Indian schools.

Teachers.—In the seventy schools, seventy-five teachers were employed, namely:—twenty eight males, and forty seven females. One teacher holds a First-Class Provincial Certificate; four hold Second Class, and the others District and Temporary Certificates. The average salary for males is about \$350, and for females about \$250, per annum.

The Teaching.—I am pleased to be able to report a continued improvement in the quality of the work done in many of the schools. The reading, writing and spelling are decidedly improved in the majority of cases, and in some schools a very fair advance is being made in arithmetic. Three years ago it was a very rare thing to find a pupil of the Second Class who was able to write, and many in the Third Reader were unable to write a single line from dictation: at my last visit I did not meet in the whole district a child in Part Second of the First Book, but could write words and short sentences very fairly. Irregular attendance on the part of pupils, owing to bad roads and long distances, and the too frequent changes of teachers, materially interfere with the progress of the schools; but these causes will, I trust, gradually disappear as the district becomes older and better settled.

Visits.—During the year I visited, with very few exceptions, all the schools *once*, and some of them *twice*, from the eastern extremity of the Manitoulin to Rat Portage, on the Lake of the Woods, a distance of some ten or twelve hundred miles. The lack of professional training among the teachers makes it necessary for me to devote the greater portion of my time at a visit to teaching classes, giving hints to teachers on system, classification, methods, etc. The classification of pupils is in many cases much too high, teachers and trustees understanding but very little of the principles which should determine it. Several new school houses have been erected since my last report, among which Manitowaning, Thessalon, and Blind River deserve special mention. I also visited the majority of the Indian schools, and made a separate report on the same to the Indian Department at Ottawa.

Teachers' Institute.—The annual meeting of the Teachers' Association for the district was held, for two days, in July, at Gore Bay, at which about twenty teachers were present. A very practical programme was discussed, in which I was ably assisted by J. E. Hodgson, M.A., High School Inspector; Rev. Mr. Cole, of Manitowaning, and several of the teachers. The district is so very large, and travelling so expensive, that many of the teachers are quite unable to attend the meetings. As an inducement, I think the Government should grant a small sum of money towards defraying the expenses of those who attend the convention: I am sure it would materially increase the attendance, and would be very thankfully received by many poor teachers who have to struggle along on very low salaries, and who would like to attend the Institute meetings, but cannot afford the expense.

Teachers' Examinations.—Examinations for granting Teachers' District Certificates, were held in July, at three different points, namely:—Gore Bay, Sault Ste. Marie and Port Arthur.

District of Parry Sound.

Sections.—There are now seventy two school sections in the district, being an increase of twelve over last year. There were fifty-three schools in operation during the year, or part of the year, being an increase of five over last year. Applications for new sections are continually being received, shewing that the district is rapidly settling up. It would be quite a convenience to the people in the unorganized Townships if the law were so changed that trustees would have power to borrow a limited sum of money for building school-houses, say \$300 or \$400, on their corporate note. The school-houses usually cost that sum, and as there is no municipal council, trustees have no means of raising the money but by a direct rate levied on the section. In the majority of new sections, to pay for a school-house and the teacher's salary, all in one year, becomes too heavy a burthen, and the desire is very general that some procedure would be devised by which the cost of a school house could be distributed over two or three years, as in the organized Townships.

Teachers.—The number of teachers employed during the year was fifty six, namely:—sixteen males and 40 females. Five of them held Second Class Provincial, and the others District and Temporary Certificates: the great majority of these teachers are mere novices, and sadly in need of professional training. A good District Model School is much needed, and should, I think, be established at Parry Sound Village, where there is now erected one of the best school-houses in the Province, outside of the cities.

Visits.—I visited each school once, and a few twice, during the year. I devoted my time much the same as in Algoma, teaching classes and giving what practical hints and suggestions as I considered were most needed. The schools, on the whole, are not doing as good work as those in Algoma: this I attribute in a large degree to the fact that more teachers with "Permits" are employed, and a more frequent change of persons—it often occurring that two, and even three, new teachers are employed in the same school in the course of a year: the salaries are also lower, and thus there is less inducement to the teachers to improve their professional standing.

Examinations.—Teachers' examinations have hitherto been held at Parry Sound Village, which is situated at one side of the district, and is over 100 miles distant from many of the attendants' residences. In order to be present at these examinations, some of the candidates have to walk the greater part of the way, which, I think, is imposing altogether too heavy a task upon them. I would, therefore, most respectfully suggest that examinations be held at, at least, two different points, say Parry Sound Village and Burk's Falls, which would cost but a trifle more, and would be a great convenience to residents in the northern and eastern parts of the district.

Teachers' Institute.—I held a two days' institute, in August, at Parry Sound, which was attended by about thirty teachers. I was again assisted by High School Inspector Hodgson. The teachers appear to take much interest in these meetings, but the distance is too great to expect many of them to attend. My recommendation with regard to the Teachers' Association in Algoma will apply here with equal force.

My Inspectorate.—My jurisdiction now extends from Lake Nipissing to the famed north-west angle of Lake of the Woods, a distance of about 1,500 or 1,600 miles, and comprises some 155 school sections, with some 123 schools in operation: this is certainly more than any one man can attend to properly: I therefore trust that steps will soon be taken to divide the labor, by appointing an additional inspector to take one of the districts.

2. ROMAN CATHOLIC SEPARATE SCHOOL INSPECTION.

Report of James F. White, Esq., Inspector.—Eastern Division.

SIR—I have the honour to lay before you my third annual report on the condition of the Separate Schools:—

Since the appointment in April of Mr. C. D. Harvey, M.A., as second Inspector, we have divided the Province: for the present he visits the schools to the north and west of Toronto, and I the others. The arrangement will continue for, say three years, and then we shall exchange districts. This division gives each of us ample work, as, in the western section there are, this year, 102 schools having 175 teachers, and in the eastern, 103 schools with 249 teachers; making a total of 205 schools and 424 teachers. In this estimate are included five schools established in new sections during the year. These figures show a gain of *eleven schools and twenty-seven teachers* since the report of last year. I am gratified to be in a position to report so substantial an increase in the number of schools and teachers, as it shows the growth and development of the Separate School system.

During the year several large and comfortable school-houses have been built, and many others have been enlarged and repaired. In nearly all the town schools the accommodations are very good: many rural sections have very comfortable buildings; but in cities, where the number of children to be accommodated is very large and the school revenue often rather small, the task of providing suitable rooms has been more difficult, hence it is found that frequently the most urgent need of improvement is in city schools; but, usually, the School Boards are willing and anxious to provide as good accommodation as the means at their disposal will allow.

In general, the schools have a very respectable supply of the most necessary apparatus, as maps and blackboards, yet much is wanting to their full equipment. Unabridged dictionaries, gazetteers, biographical dictionaries, cyclopædies, globes, charts, blocks, and similar needful helps are by no means common. Reading and arithmetic charts, now reckoned among the most useful aids for primary teaching, have not always been liberally supplied by trustees. It is not uncommon to find that children have been so often over a reading lesson that they have, perhaps unconsciously, committed it to memory; and not one lesson only, but, at times, a great part of the early readers becomes, by frequent repetition, thoroughly known by heart, and consequently, wearisome and monotonous to pupils. To prevent this evil, a proper store of suitable reading, outside that contained in the ordinary text-books, should be procured for the schools. The judicious expenditure of even a small sum annually, would, in a short time, provide a fair supply of such supplementary reading matter and the most indispensable accessories. This year some School Boards have made a commendable beginning in supplying their schools, and soon I hope to be able to report that at least all the important schools have been liberally equipped.

At the examinations for teachers, in July, the Separate Schools showed very encouraging results. In all, about thirty-two passed for the various grades of intermediate, third and second classes; of these, the highest number was from the girl's school, Lindsay, which passed nineteen pupils from a class of twenty-five; the Girl's High Class, Toronto, came next, with eight successful candidates out of nine; Ottawa passed two. When it is understood that, in schools where this has been done, the whole task of preparing the pupils for examination has usually devolved upon *only one teacher*, too much cannot be said in praise of the energy and ability of such teachers. Next year several other schools will probably try the same work. A definite course of study, as for example that laid down for third class certificates, is found to be a great advantage to the high class in a graded school: pupils and teachers work with much enthusiasm to establish the standing of their school, and afterwards to maintain its reputation by repeated successes at examinations.

As the present programme for schools, that issued in 1882, is very incomplete, if not often misleading, I would beg leave to recommend that a more complete and definite course of study be issued at an early date. In the programme now used the work in arithmetic for the first and second classes is thus defined:—First Class, numeration and notation to

1,000, addition and subtraction; Second Class, numeration and notation to 1,000,000; multiplication and division. Similarly the course in grammar and composition is thus laid down:—First Class, oral and written exercises in language; Second Class, oral and written exercises in language. Needless to say that this indefiniteness in specifying the work to be done, especially in the earlier stages, has been a great drawback to the progress of many schools. Teachers have faithfully followed the programme and have begun with the numeration and notation of abstract numbers, reaching as far as the limit, or beyond it: next, addition and subtraction, still with abstract numbers, were taken up, and long and hard ‘sums’ given, involving mere mechanical drudgery: then, too, with no better guide than this programme afforded, the work for the earlier classes in composition and language has been lamentably deficient, if oftentimes not altogether omitted. This indefiniteness of work is not true of all Separate Schools, nor is it confined to them alone, but it is common to many schools of the Province. What is needed is a full and exact course of study for the several years or grades, accompanied by suggestions for teachers; such, for example, as that laid down with admirable judgment, for arithmetic and composition, in the syllabuses for Model Schools. Many able teachers, skilled in all that belongs to their profession, do not stand in particular need of such a help, but a very large number would, in my opinion, profit greatly by it.

Toronto, December, 1884.

Report of Cornelius Deegan, Esq., Jr. A. Inspector, Western Division.

SIR,—I beg leave to submit the following Report on the Roman Catholic Separate Schools in the Western Division of the Province of Ontario, for the year 1884:—

General Statistics.—During the five working months between the first of May and the first of December, I visited the schools of 175 teachers, distributed among the twenty-one western counties of the Province. In this district there are six cities, eighteen towns, nine villages, and fifty-one rural sections, in which Separate Schools are situated. In nine class rooms, English and French are both used; and in fourteen class rooms, English and German. The total number of registered pupils, 9,100; the total in attendance, 6,200. The number of pupils in different classes, as follows:—

Class I.....	3,536
“ II.....	2,000
“ III.....	2,148
“ IV.....	1,276
“ V and VI.....	140
	<hr/> 9,100

Buildings, Accommodations and Equipments.—In the Division, there are 102 school-houses, containing nearly 200 rooms: about one-half of the buildings are either stone or brick, many of these of a very superior class; the others are generally good frame buildings, not more than half-a-dozen being altogether unfit for school purposes.

There are few places in which the general accommodation is inadequate to the number of pupils. The facilities for lighting, heating and ventilating are, for the most part, good; but, through negligence, they are seldom so applied as to give them their due effect: as these are matters that largely affect the state of pupils’ health, they cannot receive too much judicious attention.

The necessary furniture and apparatus—desks, seats, maps and blackboards—are, in the main, well supplied and of good quality: very few still retain the awkward long desk and form, and few are without the requisite number of modern maps. On the whole, the authorities appear to have done their best and in a highly creditable manner, in the matters of school buildings, accommodations and equipments; and show an earnest desire to maintain and improve their schools to the full extent of their means. Those who have exhibited marked carelessness in this respect have been duly notified of the fact.

School libraries are established in many of the principal centres, and there is evidence that the number of these useful institutions will increase.

Standing of the Pupils.—In the majority of instances the pupils have exhibited a satisfactory degree of proficiency in the chief branches of ordinary school education, and I have found several classes in which the work done would compare favorably with that of many High Schools. Even in reading, notwithstanding the difficulties caused by the confused state of the text book question, the essential qualities have been well developed. In this report, I refer to the schools collectively, and I am glad to state my inability to charge them with a common remissness in any particular subject of the usual course. The detailed reports to the Education Department indicate the standing of the schools individually.

Domestic Economy and Calisthenics for girls, the former including plain sewing, embroidery, knitting, etc., are taught with great success in several schools, and appear to be rising in favor. Some schools have begun to teach the rudiments of Agricultural Science. In the other special branches, Drawing, Music, Hygiene and Object Lessons, some instruction is given in many schools, but not to a desirable extent. I expect that for the future these subjects will receive general attention, as their value in the practical affairs of life is daily becoming more evident. The knowledge of Christian Doctrine, which the pupils obtained from their Catechisms and the instructions of the clergy, is everywhere highly satisfactory.

The Teachers.—Thirty-three of the teachers are men, and 142 women: as a body, they are earnest, painstaking and competent. The highest salary paid to a man is \$700, to a woman \$400: the averages are respectively \$700 and \$275. From this it will be seen that, in the matter of remuneration, they are on an equal footing with their fellow-laborers of the Public Schools: but, like the latter, they have to regret the too frequent occurrence of low salaries. It is true that, in most cases, School Boards pay all that they can afford: yet, there are some who can do better, especially those who advertise for teachers to "state salary expected." Advertising in this way is virtually calling for "tenders:" and in order to classify the art of teaching with the science of road making or jail-building, it is only required to add: "The lowest or any tender not necessarily accepted." I sincerely hope that this practice will not spread, because, in my opinion, it tends strongly to creating an inferior class of teachers, and consequently lowering the standard of the schools.

Miscellaneous Suggestions.—(1) The selection of a certain number of lessons in the Separate School Fourth Reader for the Literary Examination for entrance to High Schools; (2) the restoration of the fund for assisting in the establishment of School Libraries; (3) the formation of Separate School Teachers' Associations wherever practicable; (4) uniform examinations regularly held on the same day in each school throughout the Inspectorate.

Concluding Remarks.—On a general view of the situation, the friends and supporters of the Roman Catholic Separate Schools have reason to feel proud of their system: it was founded under difficulties that would have prevented the existence of many others, and it has been maintained amid trials that would have caused others to perish. When we consider the struggles sustained, in years gone by, for rights and privileges; and how very few of the schools are to-day in positions of abundant wealth; the wonder is—not that the system now rests on a solid foundation, not that the Separate Schools of Ontario are, generally speaking, in a flourishing condition—but that they have *any existence at all*. All honour to the clergy who have bestowed their time, their labour and the contents of their slender purses unsparingly, towards establishing, maintaining and forwarding their respective schools; all honour to the religious teachers who have been devoting their lives and talents, without any personal remuneration, to the noble purpose of a plan of education founded and conducted on Christian principles.

Hamilton, December, 1884.

3.—INDIAN SCHOOL INSPECTION.

1.—*Regulations on the Subject of Indian Schools and their Inspection, approved by the Minister of Education for Ontario, and the Department of Indian Affairs.*

The Department of Indian affairs for the Dominion having expressed a desire to place the Indian Schools in Ontario under the inspection of the Public School Inspectors for the Province, the following regulations have been adopted :

1. The teachers are required to have a speaking acquaintance with the Indian Language, and are, consequently, likely in most cases to be Indians ; but the instruction should, as soon as practicable and as far as possible, be given in English.

2. Teachers shall receive their certificates from the County or District Boards of Examiners, who shall be granted discretionary powers as to the attainments required ; it will be found, however, for some time to come, that the standard of " High School Entrance " will be quite as high as is attainable.

3. The subjects of study in these schools need not at present embrace more than the following, viz :—reading, writing, object lessons, elementary drawing (from cards), elementary arithmetic (the four simple rules), elementary geography (the maps of the World and Dominion of Canada), spelling and grammar (formation and analysis of simple sentences).

4. The Indian Department will furnish all text-books and apparatus for use in the schools.

5. The schools shall be placed under the inspectoral supervision of the County Inspectors in conjunction with the Indian Agent, who shall together also have a controlling influence in the selection of teachers, except in the case of schools as are established by any religious denomination under the Regulations of the Department of Indian Affairs, and in such schools the selection of teachers shall continue to be made as heretofore ; but each of the Inspectors shall state, in his reports of inspection, his opinion on the competency of the teacher of each denominational Indian School inspected by him.

A fee of six dollars (\$6) per visit shall be paid the Inspector, and legitimate travelling expenses allowed, for two visits per annum.

April 19th, 1884.

Schedule of Denominational Indian Schools, as reported by the Indian Department.

CHURCH OF ENGLAND.

Lower Muncey.

Mohawk Institute.

Mud Lake.

Oneida, No. 2.

Walpole Island, No. 1.

Tyendinaga, No. 2.

Shingwauk Home.

Wawanosh Home.

Garden River.

Eight Schools on the Six Nations' Reserve, viz. : Nos. 2, 3, 5, 6, 7, 8, 9 and 10.

ROMAN CATHOLIC CHURCH.

Fort William (Boys).

do (Girls).

Wikwemikong Industrial Institute (Boys).

do do (Girls).

Red Rock.

Wikwemikongsing.

Buywaks.

Sheguiandah.

West Bay.
Sheshegewaning.
Serpent River.
White Fish Lake.
Sagamonk.
South Bay.
Mississauga.
Mattawa.
Garden River.
Cornwall Island.

METHODIST CHURCH OF CANADA.

Alderville.
Hiawatha.
Georgina Island.
Rama.
Christian Island.
Saugeen.
Stone Ridge.
Red Line.
Oneida, No. 1.
St. Clair.
Stony Point.
Walpole Island, No. 2.
Cornwall Island.
Mount Elgin Industrial Institution.

Schedule of Indian Reserves in Ontario.

RESERVE.	NAME OF INSPECTOR.	RESIDENCE.
Tyendinaga	John Johnston	Belleville.
Alnwick	Edward Scarlett	Cobourg.
Rice Lake	James C. Brown	Norwood.
Mud Lake	do	do
Snake Island	David Fotheringham	Aurora.
Rama	James McBrion	Myrtle.
Saugeen	W. S. Chamberlain	Walkerton.
Cape Charles	do	do
Christian Island	Peter MacLean	Milton.
Maitoulm Island	do	do
Tuscarora	M. J. Kelly, M.D.	Brantford.
Kettle Point and Sauble	Charles A. Barnes, B.A.	Forest.
Sarnia	John Barclay	Sarnia.
Walpole	do	do
Back Settlement	J. S. Carson	Strathroy.
River School	do	do
Beaver Creek	do	do
Moravian	E. B. Harrison	Ridgetown.
(1) Parry Sound	Peter MacLean	Milton.
(2) do	do	do
Shawamoga	do	do
Henry's Inlet	do	do
Garden River	do	do
Fort William	do	do
Golden Lake	R. G. Scott, B.A.	Pembroke.
Cornwall Island	Alex. MacArthur	Cornwall.

2.—*Extracts from Reports of Public School Inspectors on Indian Schools.*

A. McNAUGHTON, ESQ., INSPECTOR, COUNTY OF STORMONT.

Indian School, Cornwall Island.

I visited the Indian School in connection with the Methodist Church, on Cornwall Island, on the 20th day of June.

The school is under the charge of Miss Catherine Maracle, a young lady of Indian descent, possessing a good English education, having been instructed in the Institution in Brantford, and holding a certificate of qualification for teaching an Indian School. She speaks the Indian language and is therefore capable of explaining everything to her pupils in their own dialect.

The number of pupils present at the time of my visit was five, classified as follows : Third Class, one ; Second Part of First Book, two ; and the remaining two in the Primer.

The pupil in the Third Class was able to read easy sentences, to spell with accuracy ordinary words occurring in the lessons, but had not sufficient command of English to answer questions on the literature of the lesson : she was also able to recite the multiplication table, and to work examples in the simple rules : she also wrote from dictation on the blackboard. The other pupils were learning to read and to spell, to acquire a knowledge of the English words in the lessons, the cardinal numbers, and also to write on their slates and on the blackboard.

The school house is pleasantly situated, spacious, and of elegant appearance, and would be well adapted for the purpose, if completed. At present it is finished externally, and lathed but not plastered in the interior. The teacher stated, however, that she and her pupils had not suffered much inconvenience from the cold during last winter. It is furnished with a good coal stove.

The pupils were seated on narrow benches, without desks in front, or support for their backs. Copybooks were exhibited, showing fair specimens of penmanship : but for want of desks, facilities for acquiring skill and dexterity in that art were entirely lacking. The number of pupils on the roll was 22.

There were three maps, viz :—British Isles, Canada and New Brunswick ; there was a good supply of text books, but no tablet cards.

The most urgently needed requisites are a teacher's desk, common school desks for about twenty-four pupils, and tablet lesson cards : a map of the Hemispheres, and maps of the Continents should also be procured.

On the same day I visited the Indian School on Cornwall Island, organized in connection with the Roman Catholic Church, under the charge of Miss Annie Baldwin, who holds a letter of recommendation from the Roman Catholic Board of School Commissioners of Montreal. She has been successful in getting her pupils interested in their studies, and imparting to them some knowledge of English. She does not possess a knowledge of the Indian language, and consequently her pupils are compelled to learn everything in English. I found, however, that her pupils had acquired a more ready command of English, than those instructed by a teacher conversant with both languages.

The number of pupils present on the occasion of my visit was fifteen, classified as follows : Third Class, one ; Second Class, two ; and the remainder in the First Class.

The pupils in the Second and Third Classes were capable of working examples in the simple rules and reduction ; to read and spell with a considerable degree of accuracy, and to recite and apply the tables of weights and measures : they also had some knowledge of Geography, being able to point out the principal physical features and boundaries of the continents on a map of the Hemispheres, and also to designate the countries of Europe and North America, and their capitals : they also wrote sentences on the blackboard from dictation. Several of the pupils in the First Class were able to read and spell easy words, to count and add in English, and had made some progress in learning the multiplication table : they were also learning to write.

The school is tolerably well supplied with desks and other conveniences. There is a blackboard, but it is too small. A good supply of books and lesson cards had recently been received, and were found very useful.

I had previously visited the school on the 24th of April, and I found that during the interval the pupils had made very satisfactory progress.

I also visited the school on the 28th of June, on the occasion of the public examination, when the Rev. Father Mainville, the priest in charge of the Indian Mission, and several of the parents and friends of the pupils, attended. Among other proceedings, the pupils, led by one of their friends, sang an Indian hymn.

June, 1884.

I again visited the Indian School on Cornwall Island, on the 28th November, and found it in operation under the tuition of Miss Catharine Maracle.

The number of pupils present was seven, one of whom was reading in the Third Book, and working examples in simple multiplication; two were reading in the Second Part of the First Book, spelling words of one syllable, and learning to add numbers; the remaining four were learning to read in the First Part of the First Book, and to count in English.

Although the pupils have not made great progress, yet considerable improvement was manifested, and particularly more facility evinced in pronouncing and understanding the words of the lessons, and in the use of English.

I found the school house better furnished; a teacher's desk and four desks for pupils, each capable of accommodating two, having been procured.

The specimens of writing were carefully executed.

The school in connection with the Roman Catholic Church is without a teacher.

November, 1884.

JOHN JOHNSTON, Esq., INSPECTOR, SOUTH HASTINGS.

Indian Schools, Mohawk Reserve.

School No. 25, in the eastern end of the Reserve, taught by Miss Pearce, who holds a Third Class Certificate, was thoroughly examined the afternoon of May 8th.

There were present ten white and twenty-two Mohawk pupils. I might here state that in two of the four schools, the whites are allowed to send their children by paying half of the teacher's salary, and other running expenses of the school. Very little of the land is worked by the Indians, nearly all of it being leased for terms of five years to the whites. The Mohawks have built and own all the schools.

This school is built of brick, is comfortable and quite well furnished with blackboards, tablets and maps: it is also well and comfortably seated. Since 1871 it has been carefully examined twice each year, a half day being spent at each inspection; it has generally been well taught, as the whites always took a deep and lively interest in it, and were able to secure the services of a very fair teacher. The school at present is not as efficient as formerly, as the white people or myself have had nothing to do in selecting a teacher.

Recent regulations of the Indian Department at Ottawa require that all the teachers must be of the Church of England faith; a regulation which has been to the detriment of the schools, as it was impossible for me to get such teachers. The result has been that very inefficient teachers from other parts were obtained; teachers who have no certificates, and were unacquainted with any good method of teaching.

The scholars in Part I. were only middling in reading. The reading of those in the Second Book was also middling, while the spelling was good. The reading of those in the Third Book was middling; spelling, middling; arithmetic, good, and the geography was middling. The order and attention good, and the writing middling.

School No. 3, about five miles west of the former school, and on the old stage road, was examined from 9 to 12, May 19th, in the presence of the Indian Agent, Matthew Hill.

In this school the whites are allowed to send by paying half the teacher's salary and other expenses: there is a neat frame building built by the Indians a few years ago when the school was efficient, and taught by teachers trained and taught in South Hastings. The school was dirty and the scholars very backward in all the subjects.

The scholars in the Second Book were bad; the reading bad; spelling very bad; no writing; arithmetic bad; and geography very bad. The reading, spelling and arithmetic of those in the Third Book, bad; the writing middling. The writing of the one in the Fourth Book was good, while the arithmetic was bad; the grammar very bad, and the geography middling.

Western Mohawk School, taught by Miss Johnston, who holds no certificate, was examined in the afternoon of May the 19th, in the presence of the Agent, Mr. Hill.

There were thirty scholars present, all Mohawks. The reading of the nine in Part First of the First Book was bad: there were no scholars in Part Second: there were twelve in the Second Book, but the reading was very bad; the spelling, worse: writing, middling; arithmetic, worse than bad, and no geography is taught them. The reading of the nine in the Third Book was very bad; spelling, worse than bad; writing, bad; arithmetic worse, and geography very bad.

This house is a neat frame building, built by the Indians a few years ago.

Mission School was examined July 2nd, in presence of the Agent: it is a good frame building on a nice site: it was built by money collected in England by Chief Sampson Green. This school gets a grant from the New England Company. It is taught by Miss Miracle, who was educated in the Indian School on the Grand River Reserve: she is a Mohawk and is a very fair teacher, considering her opportunities: she had twenty-six present: the room was clean and in good order, and I always found it in this condition.

The reading and spelling of those in Part First, numbering four, was good. Three in Part Second, reading, spelling and writing, good to middling; while the arithmetic was middling. Of the two in the Second Book, the reading was middling; spelling, good to middling; writing, good, but the arithmetic was bad. There were two classes in the Third Book, three in one and six in the other. The reading was middling; spelling, good; writing, good; arithmetic, middling, and geography middling. There were five in the Fourth Class: the writing was good; arithmetic, bad, and the geography middling. At my next visit I have found this school in a better state of efficiency, but the teacher told us that she had not been well for some time, and was unable to do the work properly. In the past she has done very good work in the school.

Nos. twenty-five and three I have inspected regularly for the past thirteen years, and they were fairly efficient schools till the past two or three years. At the request of Chief Sampson Green, I examined the other two schools several times previous to this year; but, had not I received the letter and circular from you last May, I did not intend to inspect the Upper Indian School any more, or as long as the present teacher was in charge.

Something must be done to prevent these schools from being placed in charge of such inefficient teachers. It is all right to have them of the same faith as the Indians, but they should be persons who know how to teach all the subjects included, as high as the Fourth Class at any rate. Many of the Mohawks don't know and don't mind what kind of a teacher is in charge.

October, 1884.

JAMES MCBRIEN, Esq., INSPECTOR, COUNTY OF ONTARIO.

Indian School, Township of Rama.

The equipment of the Indian School in the Township of Rama consists of a map of the world, a twelve-inch globe, a calculator, and books, stationery, slates, and pencils, supplied by the Methodist Missionary Society. The average attendance for the last quarter was 94. The attendance of the pupils is extremely irregular. They are allowed

to do as they please, as their parents do not attach much value to our education: they think it spoils them for fishing and hunting. The subjects taught are reading, writing, arithmetic and geography. The pupils appear to possess great ability to learn some things, but lack application. They learn to write with great facility. They are quite ingenious in drawing. Their mathematical ability appears to be next to nothing. The school is taught at present by the Rev. Kennedy Creighton, the missionary in charge: he says there will be a regular teacher by the first of July. The schoolhouse is of the most primitive description.

The following are the books used:—

Six Geographies (Cornell's).
 Seven Arithmetics (Kirkland & Scott's)
 Eight Table Cards.
 One Mental Arithmetic (McLellan's).
 One Spelling Book.
 Five sets of Copy Books (Beaty's).
 Fifteen slates, pencils, pens, etc.
 Ten First Books (Canadian Series).
 Twelve Second Books “ “
 Two Third Readers “ “

December, 1884.

DAVID FOTHERINGHAM, ESQ., INSPECTOR, NORTH YORK.

Indian School, Georgina Island.

Respecting the Indian School on Georgina Island, in the Inspectorate of North York I reached the lake shore opposite at 10 a.m., of the 29th May, but owing to a rise in the wind was unable to reach the island till 2 p.m. I spent the afternoon in the school and paid a friendly visit to the Chief, Charles Big Canoe, in the evening. The following is a copy of my notes:

School House.—Log, twenty-one feet wide, twenty-five feet long and eight feet high: very cold in winter. A new one, frame, to be erected this season by the Indian Department.

Grounds. along side and in rear of Mission Church: not enclosed, but surrounded by woods. Graves in close proximity to school house and church.

Appliances. Very limited. One small and poor blackboard, a map of the World only, with some old tablets, donated by Trustees of No. 1 Georgina School: some pews from church the only desks, with a few benches for seats, neither comfortable nor suitable: text books furnished by Mission Society of C. Methodist Church, under whose auspices the school is carried on: books in use, the authorized Readers and Gage's.

Subjects Taught.—Reading, writing, arithmetic, and a little grammar and geography, all in English, though the teacher, Robert Mayes, can speak in their own language, Ojibbeway.

Order and Spirit.—All I could desire.

Work. Reading, creditable, fairly intelligent and with good accent and pronunciation. Writing, superior, both as to being uniform and free. Few schools in North York equal in writing. Intelligence and knowledge of subject read, fair. Characteristic slowness in replies, though not to be complained of under the circumstances. Singing, better than in most public schools, not only in sweetness of voice, but in expression and training.

Having had many enquiries to make of the teacher, I was unable to enter upon other studies at this visit, but trust to a future visit to give better opportunity.

Number of pupils present, ten boys and eleven girls. On the Island, about thirty children and one hundred adults.

The teacher, Mr. Robert Mayes, I found earnest, gentle, firm, intelligent and devoted to his calling. He devotes his time on Sunday to the spiritual improvement of the Indians; as he does through the week to their social, intellectual and moral advancement.

He holds no certificate of qualification, though otherwise seeming well adapted for his work.

Our County Board, after hearing my recommendation that he be advised to attend the Entrance Examination, either in July or December next, agreed to that proposal with the understanding that a certain percentage should not be rigidly exacted.

The house in which the teacher and his family live, is not at all what it should be. I understand, however, that some improvements are in contemplation this summer.

I should recommend that the school be supplied as soon as possible with :

1. Maps of the Continent and Canada.
2. A Globe.
3. Tablet Reading Lessons.
 1. A Number Frame.
5. A limited number of Object Lessons.
6. Drawing Cards and Hand Book for Teacher.
7. Modern Desks and Seats.

June, 1884.

I again succeeded in reaching the island on the 9th October. I found a new, comfortable and fairly commodious school-house on the same site, but in front of the old one, which will now be used for Council meetings. The desks, blackboards, stove and pipes are also all new, so that few of the Public Schools in North York are more comfortable, though many are larger. The size of this, however, is quite adequate to the number of Indian children—about 30—on the island.

On the day of my visit, 13 boys and 7 girls were present, and acquitted themselves creditably in their studies in all the branches prescribed.

Mr. Robert Mayes, the teacher, as I noticed on the occasion of my former visit, seems to be well adapted for his position, being kind but firm, methodical and laborious. The wonder is with the hitherto very poor accommodation, small remuneration and isolation from associations to which he must have been accustomed, he should be willing to labor so devotedly where he now is. His residence has been undergoing considerable improvement, however, and hardships in that way will be reduced.

December, 1884.

M. J. KELLY, ESQ., M.D., INSPECTOR, COUNTY OF BRANT.

Indian Schools, Township of Tuscarora.

These Indian Schools are not all under the same management. One, known as the "Thomas School," one and a half miles from the Council House, is a Band School, *i.e.*, under the sole control of the Council of the Six Nations: three others, viz., the "Red Line" School, the "Stone Ridge" School, and the "New Credit" School, near Hagersville, seem to be under the management of the Wesleyan Conference; while the remaining eight are known as "Board" Schools, being managed by a Board appointed in 1878, and consisting of three Indian Chiefs, the two Church of England Missionaries resident on the Reserve, the Superintendent of the Mohawk Institute near Brantford, and the Superintendent of Indian Affairs in this vicinity, *ex-officio*. For four years the New England Company, of which I shall presently have something to say, contributed to the support of those eight schools, \$1,500 per annum. In 1882 this grant was reduced to \$1,000 per annum. The Six Nations Council contributed for the same purpose \$1,500, and the

Indian Department at Ottawa, \$400 per annum. Teachers' salaries are uniform over the whole Reserve, one school excepted; male and female, without distinction, receiving \$250 per annum. The average attendance at the schools, and the standard of attainments of pupils, as reported by the Board last year, were good and improving. As the New England Company has done so much here and elsewhere, for the moral and intellectual elevation of the Indian tribes of North America, a brief sketch of its history may not be amiss in this preliminary report. The Company was first established by the Long Parliament, in 1649. The first Pilgrim Fathers reached America in the "May Flower" in 1620. The celebrated John Eliot followed in 1631. Through the work of Eliot, and the publication of his eleven tracts, the wants of the North American Indians became known in England. The result was the original establishment of the company now known as the "New England Company." Long distinguished as "the Apostle of the North American Red Men," this zealous missionary was a graduate of the University of Cambridge, and commenced life as a schoolmaster. On the flight of Hooker, the head master of the school in which he was assistant, Eliot, who was also of the Puritan way of thinking, sailed with Governor Winthrop's family and other emigrants for Boston, where he at once entered upon the work to which he devoted his life.

The Royal Charter for establishing the Colony had declared that: "To win over and incite the natives of that country to the knowledge and obedience of the only true God and Saviour of mankind, and the Christian Faith, in our royal intention, and the adventurers free profession, is the principal end of the Plantation." The Colonial Seal, too, represented an Indian with a label in his mouth, inscribed, "Come over and help us." Having acquired a knowledge of their language, Eliot procured the establishment of schools, to which he induced the Indians to send their children. To aid him in his work he wrote his eleven tracts, in which he appealed with much force to the liberality of Christian people in England, and which led to the formation of the New England Company. The quaint wording of these tracts, as shown in their headings, is characteristic of the period. I transcribe some of the shorter headings. Tract II. "The Day breaking, if not the Sun rising of the Gospel with the Indians in New England. London, 1647." Tract III. "The clear Sunshine of the Gospel breaking forth upon the Indians of New England. Thos. Shepard, London, 1648." Tract IV. "The glorious prayers of the Gospel amongst the Indians in New England. Edward Winslow, London, 1649." Nearly £12,000 stg. were forthwith collected by voluntary subscriptions throughout England and Wales, and out of this £11,430 were expended in the purchase of landed property at Eviswell, in Suffolk; a farm at Plumstead, in Kent, as well as several houses in London.

The Corporation at home at once appointed Commissioners and a Treasurer in New England, who, with the income transmitted them by the authorities in England, paid itinerant missionaries and school teachers amongst the natives.

At the Restoration, (1660), the Corporation created by the Long Parliament became defunct: for a while the income ceased: but by the influence of "the excellent Robert Boyle," son of the Earl of Cork, and one of the founders of the Royal Society, an order of Charles II, in Council, was obtained, 10th April, 1661, for a new Charter of Incorporation, vesting in the Company then created (and now subsisting), the property which had been given or bought for the purposes of the late Corporation. Robert Boyle was the first Governor of the Company, which included, among other noblemen, the famous Lord Chancellor Clarendon. In 1822 the Company transferred its operations from New Brunswick to other parts of British America, and has since established stations at various times and places, one of the most important being among the Mohawks and other Six Nation Indians settled on the banks of the Grand River, between Brantford and Lake Erie. In the year 1823, after a preliminary investigation on their behalf by the Rev. John West, and with the concurrence of Captain Joseph Brant, the New England Company adopted resolutions respecting the placing fit persons, either individually or in mission families, at eligible stations in those parts of America in which the trusts of the Company could be carried on. Accordingly, the Company, in concurrence with Captain Joseph Brant, and with his assistance as a sort of lay agent, before 1827 commenced operations under the Rev. William Hough, as its first missionary, on the Grand River, and built two school-houses near the Mohawk Village (about one and a half miles from Brantford), as well as

a parsonage for the church there. This church possesses the Communion plate and Bible presented by Queen Anne to the Indian Church in the Mohawk Valley, which the Indians had been obliged to abandon. The Rev. Robert Luggar, succeeded the Rev. Wm. Hough, as Missionary, in 1827, and was, in turn, himself succeeded, ten years afterwards, by Archdeacon Nelles, who still officiates at the Mohawk Church every Sunday, having as the principal part of his congregation, the boys and girls of the Mohawk Institute. The first grant of the New England Company for Indian School purposes, was made to Captain John Brant, son of the great chief, in 1822: this was for the erection of the two school-houses before referred to. In 1832, at the time of Captain John Brant's death, the New England Company supported seven schools on the Reserve. In 1830 the "Mohawk" Institute was established for teaching handicraft trades: in 1833 it became a boarding school for ten boys and ten girls: rebuilt in 1859, it was subsequently enlarged, and it has for many years accommodated forty five boys and forty five girls, who are all boarded, lodged, clothed and educated, free of charge. The Institution is entirely supported by the funds of the Company, the net cost of each pupil annually being about \$60. Attached to the Institute is a farm of 250 acres, and adjoining it the glebe belonging to the Mohawk Church, all of which is Indian land held under a conditional tenure. There are in the Institute two teachers with the Superintendent, all of whom reside in the building. The boys and girls in relays receive instruction in the literary classes for two days, and work the third.

I paid my first visit to the schools on the Reserve, the 3rd of June, being accompanied by Mr. Ashton, the Superintendent of the Mohawk Institute: examining in the forenoon "Thomas's" School, where we found the Indian Commissioner, and Mr. Allan Cleghorn of Brantford, awaiting us. Thirty-two pupils' names on the roll: twenty one pupils present, of whom two were white. Teacher, John Miller (white), teaching on an expired Third Class Certificate. Pupils, arranged in three classes, First, Second and Third, were examined in reading, spelling, arithmetic and geography: doing fairly, though much inferior to white children of same grades in our Public Schools. House, frame, badly furnished: floor dirty: no trees or water closets on grounds. Globe, small, and numeral frames needed, also maps of World, Canada and States, ink and pens, crayons, blackboard, reading-books and desks. At noon, met with the Chiefs of the Six Nations in Council House where they had assembled, and explained to them my mission on the Reserve. In the afternoon, visited the "Red Line" School, under the W. M. Conference: found enrolled twenty six pupils: present, nine. Teacher, Miss Annie Cross, an intelligent young lady, daughter of the resident Missionary, holding a recommendation for certificate from the Rev. Dr. Burns, Principal of the Young Ladies College, Hamilton. The pupils were all in the First Class, and knew very little of the work even of that class. The house is a small frame one, and the furniture is nearly *nil*: desks are arranged around the walls, on which hang maps of the World and Ontario: there is no school yard. This school needs a small Globe, a numeral frame, tablets, blackboard, map of Dominion, new desks, also walls plastered and whitewashed.

June 9th, with Mr. Ashton, visited Board School No. 3, ten miles from Brantford: a frame school house painted white: neat grounds, half an acre, out houses and some trees. Found here a clock, blackboard, maps of the Dominion and hemispheres, zoological chart, Ten Commandments, time and limit tables, good desks and seats. Rev. D. J. Caswell, B.D., Anglican Missionary, and Chiefs Moses, Martin and John Hill, were present during the examination. Thirty one children present, arranged in five classes, and for the most part, fairly well dressed. Teacher, Sarah Davis (Indian), who passed the entrance examination four years ago. Children were examined in reading, dictation, writing, arithmetic, very elementary grammar and geography, and did fairly well. In the afternoon visited Board School No. 7: David Hill (Indian), teacher: house, log, clapboarded: ground enclosed by wire fence: no trees: desks etc., same as in No. 3. Same visitors present, with a considerable addition of females. Thirty-three children present in four classes. Examination of much the same character as in No. 3.

June 12th, visited Board School No. 10. Peter Martin (Indian), teacher. Same visitors as on the 9th June, with the addition of the Indian Commissioner, Lieut.-Col. Gilkison, and Rev. Mr. Anthony, (Indian). The school-house, a neat brick structure, was

erected last year. It has a double porch with separate entrances for boys and girls : a neat bell-tower, and in the front is placed a marble slab inscribed, "Six Nations S. S., No. 10, 1883:" the foundation is stone, and the cost of the building was \$1,000. The school-room is furnished with double desks, a raised platform with teacher's desk, cupboards, a large slate blackboard, seven by three feet, with chalk troughs etc. The house is situated in a pleasant grove, and there are two good water-closets. Within the school-room are a nice clock, small globe, numeral frame, natural history cards, maps of the World and Canada, and a zoological chart. Number of pupils present, forty-one, in five classes. The examination showed this the best school I inspected on the Reserve.

In the afternoon (an excessively hot one), paid a visit to the "Stone Ridge" School, under C. M. Conference. A log house without grounds and water-closets. The teacher, a son of the Rev. Mr. Cross, C. W. Methodist Missionary, was absent. The children had been apparently trying to scrub the floor, but on our approach (there was a train of four or five buggies and democrats), they hastily decamped. Everything here was of the most premature sort : forms around the walls, no desks : floor broken in several places : a raised platform for the teacher, about three feet above the floor and railed in : on the walls a map of the World and the Ten Commandments. Though the "school-master was abroad," there was little evidence of "sweetness and light" in the school.

On the 13th of June, the Board School No. 5, on the township of Oneida boundary, was visited : new frame building, large and airy, well furnished. Miss Bella Latham, (white), teacher. Nineteen children present in five classes, one only in the Fourth and in the Fifth Classes ; result of the examination, middling. It was impossible to reach any other school that day.

June 20th, examined in the morning, Board School No. 2, near the Council House ; Miss Floretta Marakle (Indian), teacher ; an active, painstaking and energetic manager of a school. Brown frame house, plastered and whitewashed inside : grounds enclosed by a wire fence : good outhouses : no trees : good clock, maps etc. : floor clean : everything in good order. Thirty-five pupils present, arranged in five classes, one in the Fifth and five in the Fourth. Reading, dictation, arithmetic and grammar, satisfactory ; order good. Two Chiefs and Mrs. Elliot and Miss Ray, present. Afternoon of same day, examined Board School No. 8. Frame house in a pleasant pine grove, opposite Kanyauga Church, (Episcopal), Miss Maggie Davis (Indian), teacher : passed entrance examination a year ago last Christmas. Inside, plastered walls quite white ; floor very clean ; porch, large ; clock, small globe, etc., in good order. Twenty pupils present, in four classes ; proficiency fair.

June 23rd, in company with Mr. Ashton, and the Indian Commissioner, I visited the New Credit school (under Band and C. W. Conference), of the Mississaugas, an Ojibbeway tribe. This school is about twenty miles from Brantford, and as the morning was extremely warm, we were late in reaching our destination. The land, nearly all the way from Brantford—a mile or so of a low sand level on the Reserve excepted—is a fine clay loam. Six miles south of the city, at Burch's Corners, you turn to the east and the road is straight thence all the way. About two and a half miles from the town on the Cockshut road, the Tuscarora boundary is reached, when you pass through the very garden of the Reserve. Such wheat fields, hay fields, and spring crops as lined the road on either hand, one does not often see. The Reserve of 44,000 acres held by the Indians in Tuscarora is, for the most part the very best of land, much of it being of alluvial formation, generally level, but shorn of its primeval forest trees, the bush having now a frowsy, scrubby appearance. The Commissioner has for years done his best to prevent the destruction of the forest, but the cupidity of the white man and the need of the Indian have been too strong for him. Scarcely a tree is to be found anywhere along the roads for shade or shelter, and wells are almost unknown. The highways are nearly impassable—indeed, altogether, I believe in the Spring and Fall—and are even now seamed with deep ruts. Food for horses as well as men must be taken along.

The New Credit school is supplied by the Band, *i.e.*, the Mississauga tribe, which makes it a grant of \$300 per annum, and this is supplemented by a grant of \$50 from the Indian Department. The teacher in charge is Mr. John Scott (white), who holds a permit from the Indian Office, Ottawa : his salary is \$350. The house is frame, twenty

by thirty feet with porch : grounds are not inclosed. The school room is not in a satisfactory state : the desks are poor, the floor broken, plaster off walls : needs an entirely new equipment. Fourteen pupils present, in four classes : proficiency middling. Doctor Peter Jones, of Hagersville, Chief of the tribe, and son of the late Rev. Peter Jones, of Brantford, was present during the examination.

Afternoon, examined "Board" School No. 9. Claybourn Russell (Indian), teacher. Small frame school house with porch : equipment the same as in other Board Schools : grounds enclosed with wire fence : no trees : access to the grounds in all the "Board" Schools is by stile and not by gate. All the houses are furnished with large bells. Twenty-eight children were present, clean and neat in dress and appearance. Many visitors of both sexes. Five classes examined with fair results.

In my opinion the schools known as "Board" on the Tuscarora Reserve, have better equipment, are under better management, and are doing better work than the others. This is due, no doubt, to the interest taken in them by the members of the Board, and especially by the Commissioner and the Superintendent of the Mohawk Institute. It would be well if all the schools were placed under the same management. As to the supply of teachers, I think the Indian youth, trained in the Mohawk Institute, ought to have the preference : after passing the Entrance examination they might be trained for three or five months in the art of teaching, under the direction of the Superintendent of the Mohawk Institute, and for this extra work the Indian Department might reasonably be asked to pay a small amount.

August, 1887.

W. S. CLDENING, ESQ., INSPECTOR, EAST BRUCE.

Indian Schools, Saugeen Reserve, with Cape Croker.

First visit.—There are three schools in the Saugeen Reserve, known as (1) Indian Village, (2) French Bay, and (3) Scotch Settlement. The school-houses in the two latter localities are excellent, and in the former, fair.

In 1st, Margaretta Spence, teacher, holds a Third Class, and is learning the Indian language : there was no privy or play-ground.

In 2nd, Alexander Madwayosh, teacher, is an Indian, and holds a District Certificate granted at Collingwood : he has only been here about two weeks, and being ill at the time of inspection, his classes were not examined.

In 3rd, Maggie Robertson, teacher, holds a Third Class certificate.

In the two schools examined, I found 18 scholars in Part I, 2 in Part II, 5 in the Second, 1 in the Third, and 1 in the Fourth Class. I found the classes too far advanced, and the amount gone over not thoroughly prepared.

I would recommend a numeral frame for each school, also the maps of The World and Canada. The schools were inspected on June 17th and 18th.

August, 1887.

I visited Saugeen Reserve again on November 18th and 19th, and Cape Croker, October 28th and 29th.

I noticed considerable improvement at Saugeen on the occasion of my second visit, and was pleased to see that some new maps had been provided. I found 15 scholars in each of two schools and 26 in another. One is a Missionary school, and the teacher holds a Third Class Certificate : and one of the other schools is also taught by a Third Class teacher, the other by an Indian.

At Cape Croker I found 7 scholars in one school, and 18 in another. The teacher of the third school was absent at the time I visited the Reserve : one teacher is a young lady of entrance standing, the other two were Indians.

Two Indians from Cape Croker, and one from Saugeen, attended an examination at Wiarton, and certificates have been granted them by the County Board. The teacher who was absent from his school failed badly at the examination, and he is unfortunately too fond of spirituous liquors: the other Indian is doing good work in his school. I found scholars as far advanced as the Fourth Class, but it was a mistake, as they were quite unfit.

December, 1884.

JOHN DEARNESS, ESQ., INSPECTOR, EAST MIDDLESEX.

Indian Schools, Oneida Reservation.

ONEIDA No. 1.—Teacher, Miss Mary E. Beatty (white).

Success.—She takes much interest in her work; adopts some good methods. She seemed to lend an attentive and willing ear to all my suggestions for the improvement of her school, or of her methods of teaching or government.

Order.—Middling, while I was present. She says her pupils take advantage of a visitor's presence. Her inability to address them in their native language makes it more difficult for her to arrest their attention and to reprove them for disorder.

Salary.—Her salary is \$250. She thinks if the Indians were required to contribute to a part of the salary, they would take more interest in the school and try to send their children more regularly.

Pupils.—Fifty-six registered; average for last quarter, twenty-nine; nineteen present on the 26th: they are irregular and tardy. Although 9 a.m. is the hour of opening, school is usually not called until a quarter or half-hour past nine a.m.

Subjects of Study.—They are fairly proficient in writing, drawing and spelling. I advised more teaching of oral and written English composition. In many cases I find them reading sentences meaningless to them.

School House.—A neat small frame building, poorly seated with long wooden benches, only four of which have desks. The house needs "banking up" before winter. The blackboard needs blackwashing. The only apparatus in the school is a map of The World. It needs a map of the Dominion of Canada and a small globe. The younger pupils ought to be supplied with slates—say two or three dozen.

ONEIDA, No. 2.—Teacher, John T. Scuyler, Indian.

Certificate.—He promised to write at the H. S. Entrance Examination: he was educated at the Mohawk Institute.

Success.—Methods, grade, management and order, fairly good: I think he will be much benefited by my suggestions to him concerning the importance and methods of teaching the children to speak English.

Salary.—\$200: \$50 from the natives, and \$150 from the English Church Missionary Society. If Mr. Scuyler were to prepare to pass the examination, and improve his methods of teaching, I would recommend the Indian Department to make a grant of \$50 a year to the school.

Pupils.—Registered, 43; average, 25; 14 present on the 27th inst.

Order.—Good, pupils not well supplied with text-books.

School-house.—A good building, poorly seated. No maps or other apparatus.

ONEIDA, No. 3.—Teacher, Elijah Sickles, Indian. Educated at the Mohawk Institution, bears thence most excellent testimonials. He promised to write at the H. S. Entrance Examination.

Success.—I can highly recommend Mr. Sickles and his school to the Department. I have seldom met a teacher more earnest and zealous than Mr. S: he maintains good order, teaches with energy, and listens eagerly to every suggestion.

Salary. The Department pays him \$106, and the patrons of his school paid him last year \$120, the year before, \$144. \$250 a year is not enough for such a teacher as Mr. Sickles.

School house. Good frame building costing \$1,200. It was built by Mr. Sickles: he was not only the carpenter, but chiefly instrumental in collecting the means to build it: there is yet a debt of \$200 on it for which he is personally responsible. I would be glad to hear that the Department could assist in paying the debt.

Apparatus. A blackboard, map of The World, small globe and three or four dozen slates are needed.

* July, 1884.

J. S. CARSON, ESQ., INSPECTOR, WEST MIDDLESEX.

Indian School, Township of Caradoc.

First visit.—The Mount Elgin Institution seems to bear a relation to the other Indian schools, somewhat similar to that of our High to our Public Schools.

The room for teaching is not well furnished, the desks are neither adapted to the size nor the comfort of the pupils, and the interior is wanting in that bright cheery appearance so congenial to both teacher and pupils—a little painting, whitewashing and a few pictures, with the necessary maps, would remove the objection.

Thirty-six pupils were present, and I was informed others were working on the farm or in the house: during my visit, attention was paid to the character of the teaching in order that I might estimate the probable progress of the pupils under existing circumstances—the grand difficulty is to reach the pupils' minds through the English language. The teacher holds a third class certificate, and appears to be energetic and painstaking. In my opinion he does not possess the requisite skill and tact to teach this school well: there should be in charge one of our best second class teachers; his selection should be made with special reference to the requirements of the institution. If the teachers of the other schools are to be trained here, it is of the first importance that the teaching, discipline and management be of a high order: these can only be secured by the employment of a thoroughly competent instructor.

The schools taught by Messrs. Fisher, Henry, Timothy and Miss Scott are so much alike that one description would do for all. I may remark that Mr. Timothy was absent on the day of my visit, and his wife had charge.

The children read and spell words, but have not the slightest acquaintance with their meaning and use: there is no systematic attempt to teach English, nor will there be, till the teachers see their work from a different standpoint. To infuse life and energy into these schools will demand time, thought and exertion: the teachers need training, and the children should be made to attend with some measure of regularity.

I intend to have a meeting of the teachers, and spend one or more days with them in visiting the lowest rooms of the Strathroy school. I may add, there should be in each room a map of the World, one of Ontario, also tablet lessons, plenty of blackboard, and a numeral frame.

The following table gives the attendance at each school on the day of inspection.

Joseph Fisher's	16 pupils.
John Henry's	20 "
Chas. Timothy's	9 "
Mary J. Scott's	2 "

I would recommend that some of the most promising children be selected and trained, with a view of becoming teachers either at the Institution, or, better, at some of our best Public Schools: with such an incentive they would work with pleasure and be fairly well prepared to teach the elementary branches.

June, 1884.

Second visit.—The school-houses, which are not at all as comfortable as those used for Public School purposes, are not so bad as one would expect under the circumstances. With one exception—the Church of England School house—they provide reasonable shelter from cold and wet. A small expenditure on each would make them better than many houses in back settlements.

In most cases there is lack of blackboard accommodation. I do not think the present teachers feel the want as keenly as if they were better qualified for teaching. The desks and seats are of a rude pattern: still, for an Indian child, it is possible they may appear the perfection of comfort. There are some maps, but very little use is made of them: some schools have numeral frames.

The teachers are the same as those in charge when my first visit was made. With the exception of Mr. Whiting, teacher in the Mount Elgin Institution, none of them holds a certificate. I am of opinion it would be useless to ask them to prepare for passing even the entrance examination to a High School. Some of the teachers talk of resigning: if they carry out their intention, it may not be difficult to fill their places with Indians who are qualified under the regulations. It is almost needless to remark, a change for the better is very desirable.

The attendance is small, sixteen pupils being the largest number present in any of the schools on the day of inspection. In the Institution there were twenty-eight, besides a large class doing work on the farm.

In reference to the teaching, it is fair in the Institution, and very inferior in all the other schools. Reading, writing, spelling and arithmetic are attempted. For the most part, the Indian tongue is used in the play-ground, and by the teacher to give explanations. It is not unusual to find pupils who can spell and recognize words, without the slightest idea of what they mean. The writing is middling, but the arithmetic is very low indeed. In one of the schools, I found two pupils who could do addition well, and were reading in the Third Book. There is a pressing necessity for better teachers for these children.

The school in the Institution is soon to undergo extensive repairs: to this school we must look for the teachers who will succeed those on the Reserve. This summer two passed entrance to the High School, and at the Christmas Examination others may succeed. If these would spend a few weeks in a good Public School under the instruction of the teacher, they would suit very well to take charge of the schools on the Reserve.

Early next year I propose having a conference with the Indian Agent, Mr. Gordon, and the leading Indians, to determine what can be done, if anything, to promote the progress of these schools. The question is perplexing me, and unless improvement can be made, I fear the money paid for inspection cannot be considered a wise expenditure. I am anxious to learn to what extent the Department is likely to be influenced by my suggestions regarding these schools. I especially desire better teachers, and hope for means to brighten the school-house inside. These are reasonable expectations, and there may be other means to gratify them.

December, 1884.

E. B. HARRISON, ESQ., INSPECTOR, EAST KENT.

Moravian Indian Reserve.

The Moravian Indian Reserve was visited by me on the 20th May. I found two schools established there for the education of Indian children.

The one on the Mission Farm at the river, is under the auspices of the Moravian Church, and has been in operation (so I am informed), for a period of upwards of ninety years; it was formerly located at a short distance from the present site, and in the old Moravian town, on the north side of the river Thames. The number of pupils, whose names are entered on the Register, and during the current year, is twenty-two; the average attendance during the winter quarter was fourteen; but as it is not mentioned in the list of the Denominational Indian Schools, as reported by the Indian Department, I presume it was not the intention of the said Department that it should be inspected; consequently it was not inspected by me.

The other school is situated at a distance of about one mile from the former school, and in the centre of the Reserve, and as the Reserve is two miles square, all the children can attend without any difficulty, so far as relates to distance. I visited it on the day heretofore mentioned, viz., 20th inst., and now present the following particulars. The name of the teacher is Daniel Edwards: he is forty-two years of age: he formerly held an Old County Board Second Class Teacher's Certificate, and taught in a satisfactory manner in this county during a period of seven years, in the Public Schools: he was compelled by ill health to abstain from teaching for a few years: after recovering his health he was placed in this school as teacher, and has occupied this position for upwards of five years: he has not a speaking acquaintance with the Indian language, but is able to make himself understood by the children through the medium of the elder pupils, who generally understand the English language sufficiently well to know what the teacher says: and also by his own knowledge of Indian words and phrases, acquired partly from having resided near them before he commenced to teach, and partly during the time he has been with them.

Only a daily Register is kept, and at the end of the quarter forwarded to the Indian Department.

The general condition of the school as to organization is fair; discipline, good; efficiency, middling. A short time previous to my visit, the teacher recommenced his labours, after an illness of about three weeks; this most likely had an effect on the efficiency of the classes.

Object lessons and music are taught: in the latter the pupils are not taught to read music.

The proficiency of the pupils is tested principally by oral examination.

From 1875 to 1883, inclusive, I have visited this school periodically, except on two occasions: once when they had the small-pox in the Reserve; and once when the building was occupied by the Council, my other duties and the bad state of the roads prevented me from making a second attempt. I have never reported to the Indian Department, but have to the chiefs.

Irregular attendance has prevented satisfactory progress on the part of the pupils. The Council should make attendance compulsory during certain months of the year, and fine those who would not comply.

At first I endeavoured to obtain the services of a teacher, who could speak the Indian language, but was unable to find one who was otherwise suitable.

The school site contains about an acre of land, and is fenced. There are privies, one for each sex, but they require new doors; the present ones being made from elm lumber, are so warped as to be useless. I have no doubt this matter will be attended to, as I have sent a report to the chief.

Last year a very neat, commodious and comfortable (except the ventilation) school house was erected: it is a frame building and well painted: the room for cloaks and other garments of the children is large, and the same may be said of the teacher's room. The building is furnished with a sufficient number of excellent desks and seats to accommodate forty pupils: the blackboards are good, but more are required: there are three maps, viz., an old map of the World, a map of the Dominion, published in 1876, and a map of Palestine. They require a new map of the World, a map of North America, and a Numeral Frame. After vacation it would be advisable for the Indian Department to furnish the school with a new series of Readers; those now in use, the old authorized ones, not being suitable. The copy books purchased at different places by the parents, are in many instances unsuitable: these, with such stationery as is required, should also be provided for them.

The old school-house is now used for a Council Room, and I trust also, for their feasts. There is a log house on the same site for the teacher: but as the present teacher has his own house to live in, it is now occupied by the Janitor.

Proficiency is marked thus :—

1. Excellent. 2. Good. 3. Middling. 4. Inferior. 5. Bad.

QUESTIONS.		ANSWERS. CLASSES.				
SUBJECT OF INSTRUCTION.		I.	II.	III.	IV.	Total.
	PART I.	PART II.				
Number of Pupils enrolled during 1884, in each class.	16	17	11	6	1	51
Number of Pupils present during my visit, in each class.....	7	10	2	2	..	21
Proficiency in Reading.....	3 & 2	3 & 2	3	2	Not present during my visit.	Two pupils included in the 21 were not Indian children, but were not included in the 51, the latter being all Indians.
" Spelling			2 & 3	2		
" Writing			Slates 2 Books 3	Slates 2 Books 2		
" Arithmetic		Counting Numb. 2	Addition 2	Simple Rules. 2		
" Singing *						

* The whole school=2. Articulation, good and distinct.

July, 1884.

C. A. BARNES, ESQ., INSPECTOR, No. 1, LAMBTON.

Indian Schools at Kettle and Stony Points.

The School at Kettle Point is at present conducted by Miss E. Royle, who came from England about nine months ago and has been engaged teaching since February last: she has no certificate of standing in this country, and as her engagement terminates the 1st of October, I did not think it necessary to ask her to attend the Examinations.

There were nine pupils present at the time of my visit, in the first, second and third classes: the reading in the third class was fair, although somewhat monotonous.

Spelling fair, multiplication tables to nine times, very good.

The writing in all classes was very good, in fact I was very much gratified to find it so good.

The supply of copies was somewhat scarce, but the term being so near its close, accounts for that being the case, but I have no doubt a supply will be in readiness at the opening of the school after vacation.

Miss Royle also teaches singing and knitting, thus giving variety to her work.

I would suggest that maps of the County of Lambton and the Dominion of Canada should be provided as soon as possible, in order that geography may be taught intelligently.

As soon as the question of Readers is finally settled, I think tablets should also be supplied.

The building at present used as a school is also used for church purposes.

A new church is in course of erection, and when complete, the present building will then be used altogether for school purposes, when I hope a larger supply of blackboard will also be provided.

The school at Stony Point is also kept in the Church, and is conducted by Mr. Moses Waucosh; the number of pupils present was six; the supply of ink and pens was very limited, but I was informed afterwards by the Rev. Mr. White that Mr. Waucosh could have had these by asking for them, as he (Mr. White) keeps a supply of school requisites on hand.

Reading, spelling, arithmetic, geography, grammar and writing are taught, but in all these subjects the knowledge is exceedingly limited.

August, 1884.

JOHN BELBNER, ESQ., INSPECTOR, WEST LAMBTON.

Indian School on Walpole Island, and Sarnia Reserve.

First visit. No. 1, WALPOLE ISLAND. — Wm. Peters (Indian), teacher. Has only taught eight days, the former teacher having gone to Saugeen Reserve.

Attendance.—Thirteen boys and twelve girls.

Senior Second Book, two boys and one girl; reading indistinct and without proper pauses, know the words; spelling, very good; writing very good; arithmetic, simple rules, well done.

Junior 2nd, one boy; reading indistinct, knows the words fairly; spelling only middling; writing fair; arithmetic poor.

Part 2nd, 1st book, two boys and one girl; reading better than in 2nd, utterance more distinct, and more attention to pauses; spelling, good; writing, good; arithmetic, addition and subtraction, good.

First Part, three boys; reading, fair; spelling, good; printing, good. All the other pupils only learning the alphabet.

Teacher appears energetic and anxious to do well: he got his education at the Mount Elgin Institute, but has passed no examination.

Equipment.—Good school-house, fairly furnished with pine desks, etc., map of the World, Ten Commandments and the Lord's Prayer on tablets, black-board too small, numeral frame.

Requisites.—First Book tablets, chalk (I have sent a box of crayons), and hope the former will be provided as soon as possible.

No. 2, WALPOLE ISLAND. — Rev. William Stood, teacher. First Class certificate.

Attendance.—Nine boys and two girls, also three daughters of the teacher, (not reported.)

Third Book, one boy; reading, middling, monotonous; spelling, good; writing, not very good; arithmetic, simple rules, fair.

Second Book, two girls, one boy; reading, indistinct, know the words; spelling, not very good; writing, fair; arithmetic, addition and subtraction, not well done.

Second Part First Book, three boys; reading, good but indistinct, can pronounce the words, but I doubt if they *know* the meanings; spelling, poor; writing, good; arithmetic, middling.

First Part, four boys; reading, fair (simultaneous); writing, very good; arithmetic mental, fair.

Equipment.—Good school-house, seated with pine desks, map of the World, tablets, numeral frame and a small black board.

July, 1884

Second visit.—WALPOLE ISLAND, No. 2.—William Peters (Indian), teacher. Visited October 29th, 10 to 12.30. Fifteen boys and fifteen girls present.

Too little blackboard : slate pencils needed.

First Part, First Book, eight boys and twelve girls : many just beginning to read, but a few read middling and spell on books well ; no writing except figures ; some fair printing ; arithmetic, only a little mental.

Second Part, First Book, six boys and two girls : reading fair ; spelling good ; arithmetic good, only two failing to get all the examples correct : writing good.

Second Book, one boy and one girl : reading, middling ; spelling by boy, good, by girl, poor (very nervous) ; all examples in arithmetic correct : writing, good ; geography, bad.

Since my last visit this school has sent three boys and one girl to the Shingwauk Home, and three boys and three girls to the Mount Elgin Institute ; so that there is now no Third Class left in the school.

WALPOLE ISLAND, No. 1.—Rev. Wm. Stout (White) teacher. Visited October 29th, 1.30 to 3.30. Owing to the prevalence of a troublesome skin disease, only three Indian children were present, (lowest hitherto, six,) besides these there were six white children, two boys and four girls ; three of the latter being Mr. Stout's own, the others coming from the saw mill.

Second Part, First Book, two boys. Reading good, distinct ; spelling good ; arithmetic (addition) bad ; writing, very good.

Second Book class, one girl. Reading good, except slight lisp : spelling, very good ; arithmetic (addition and subtraction) only middling ; writing not so good. Pupil often absent.

School-house fairly furnished : more blackboard needed

White children.—Fourth Class. One girl, reading, poor ; spelling, not good : writing, fair ; arithmetic, fair ; grammar, only begun : should be in the Third Class.

Third Class, one boy and two girls. Reading, good ; spelling, good ; grammar, very good ; did not examine in arithmetic ; writing, very good.

Second Class, one girl. Reading, middling ; spelling, good ; arithmetic, fair.

First Class, one boy. Reading, good ; spelling, good ; arithmetic, none.

SARNIA RESERVE (St. Clair). Andrew Jacobs (Indian), teacher. Visited November 19th, 10 to 12. Present, twelve boys and fourteen girls.

First Part, First Book. Alphabet, three boys and one girl. Reading, five boys and ten girls, read fairly, but indistinctly ; children appear to understand what they read, and can spell on the book ; no arithmetic has yet been taught them, indeed they can scarcely count a dozen.

Second Part, First Book, three boys and two girls. In reading, know all the words, but name them monotonously and without expression ; spelling, good ; arithmetic (addition and subtraction) done correctly ; writing good.

Second Class. One boy, reads distinctly, spells well ; does multiplication fairly ; writing, good.

Third Class. One girl, reading good, understands what is read pretty well ; spelling, good ; arithmetic, poor ; writing, very good ; geography, poor ; grammar none.

Pupils now attending, 11, 12 and 14 years of age. Some have gone to Shingwauk and Mount Elgin Institutes, but exactly how many Mr. Jacobs could not tell.

The furniture in this school is poor and not well arranged : too little blackboard, which is too little used : school house not plastered, only lined with matched stuff, must be cold now.

I think some pressure could be brought to bear on Indian pupils in connection with their annuities to secure more regular and punctual attendance. A minimum number of days for each half year might be fixed, and some rewards or prizes given for continuous punctual attendance, while a prospective deduction for irregular or tardy attendance might stimulate the careless.

SARNIA RESERVE.—Andrew Jacobs (Indian), teacher. No certificate.

Attendance.—Eleven boys and fifteen girls.

First Part, First Book, six boys and fourteen girls; reading, very indistinct, don't open their teeth enough to let words out; spelling, none; writing, fair; arithmetic, none.

Second Part, First Book, five boys; reading, fair; spelling, good; writing, very good; arithmetic, middling.

Second Book, none present; writing in their books good.

Third Book, one girl, bright, intelligent child, age thirteen (attended No. 14, Moore), reading, good; spelling, good; writing, good; arithmetic, middling.

Equipment. School house not good, too high from the ground, only wainscotted, cold, very poor desks, etc.

In such a school, tablets are indispensable; map of the Dominion should be in every school, with numeral frame, and calculator, as these are needed.

The teacher lacks energy, and I doubt if much work is done some days.

November, 1884.

P. MACLEAN, Esq., INSPECTOR, DISTRICT OF ALGOMA.

Indian Schools, Algoma.

GENERAL REPORT.

First visit.—I visited fourteen of these schools, and with the exception of the Industrial Schools at Wikwemikong, Sault Ste. Marie and Fort William, they in a are very low state, scarcely deserving the name of schools.

Teachers. The teachers are for the most part native females, with scarcely any education, and having but a very imperfect knowledge of English. In several cases the teachers were quite unable to understand me when asking little points of information about their schools, etc.

The Pupils.—The pupils generally have but very little idea of the meaning of their reading lessons, and in very many instances cannot give the English names of the commonest objects of life, or even such as are around them in the school room. I found them reading in every book from the First to the Sixth; not the Ontario Readers, but denominational Readers of several varieties: the reading is not by any means good, still I am surprised how good it is in some cases, when I consider how little of it they understand.

The spelling is usually very good, and the writing excellent. The arithmetic is very poor: the teachers in the majority of cases knowing nothing about the subject themselves. Some of the pupils are neat, clean and tidy in their persons, but in too many cases they are very filthy.

School-Houses.—The school-houses are, generally speaking, very poor, small, unfurnished, and dirty. In several instances the teacher resides in the school-room; has her bed, cooking-stove, cradle, wash-tubs, pots etc., all around the room, with a few benches in one corner for the pupils.

Irregular Attendance.—The teachers all complained to me of the very irregular attendance of the pupils. They appear to go to school when it suits their own whim, and stay at home when it pleases them to do so, the parents seeming to care little or nothing whether their children go to school or not. Many of the schools have but five or six pupils present, where there might be twenty or over. I would in this connection suggest for the consideration of the Indian Department, whether some regulation may not be passed to remedy this evil: such, for instance, as making the payment of the annuity for all children between the ages of seven and fourteen, conditional upon their attendance at school for at least four or five months in each year; or what might be better still, grant a small yearly bonus to every child so attending.

School Requisites. The majority of the schools are entirely lacking in even the most ordinary school requisites. My detailed report contains a list of what requisites I consider necessary for each school at present, and I would recommend that they be furnished to the Indian agents with instructions to distribute to the schools. I would also recommend the preparation of a set of Reading Tablets with graded lessons for the use of the schools. The first few lessons should consist of a few English names of common objects, a pictorial representation of the same, and the Indian word for each: this might be arranged on the tablet in three parallel columns. These lessons might then be followed by short exercises intended for the slate, namely, a few Indian names to be written out in English, and *vice versa*, English words to be written down in Indian. In this way they would soon be in possession of quite a number of English words and their meaning.

In conclusion, I would respectfully submit, that in my opinion the Indian Schools will never give satisfactory results until there is a radical change in the present staff of teachers; the majority of whom hold no certificates, and never passed any examination; but were appointed to their respective positions by the Denominational authorities of the churches to which they belong.

DETAILED REPORT.

1. *Wikwemikong (Boys).*—There are two male teachers, Joseph Richard and Stephen Dufresne, both educated in the Church Schools, and who speak English fluently: they appear to be doing their work intelligently and well.

Number of pupils enrolled since 1st January, 1884, sixty-two: number present at my visit, thirty-nine.

The pupils read well, and had a very fair knowledge of the meaning of the lesson; spoke English well in answer to my questions: the spelling and writing, very good; had a fair knowledge of addition and subtraction mechanically, and some understood multiplication and division.

The subjects taught in the school are reading, writing, spelling, arithmetic, geography, grammar, map-drawing, composition, singing, church catechism and sacred history. The classification of the pupils was First Book, Part I, twenty; Part II, six; Second Book, six; Third Book, five; Fourth Book, two. The Readers used were those of the Christian Brothers.

Blacksmithing, shoemaking and carpentry are taught to any of the older boys who wish to learn trades. I saw some well made boots and shoes turned out from their shop. The school-room is neat, clean and commodious, but the desks are very unsuitable.

2. *Wikwemikong (Girls).*—There are two lady teachers—Miss Lucy Haessly, the Principal, educated at St. Mary's Orphan Asylum, Cleveland; and the Assistant, Miss Rosa Kintz, educated at St. Joseph's Academy, Fordham, New York.

Number enrolled since 1st January, 1884, 87: number present at my visit, 53, classified as follows:—First Book, Part I, 7; First Book, Part 2, 18; Second Book, 6; Third Book, 6; Fourth Book, 6; Fifth Book, 4. The Readers used were the "Metropolitan" series. The classification of the pupils is entirely too high. The reading, writing and spelling were not good. The girls' school is behind the boys' school in the literary subjects, but much of their time is taken up with the industrial subjects. The school-room is much too crowded, and the desks and seats unsuitable. By far the most important work in this school is the industrial knowledge given to the girls, who are to be the future Indian wives and mothers, and which must have its civilizing influence upon the race in due time.

The girls are taught spinning, weaving, knitting, sewing, laundry and kitchen work. There is a clean, airy, comfortable dormitory, where each girl is expected to keep her own cot in order. I was very much pleased with this school.

3. *Bawwaks School.*—Teacher, Miss Agatha Galow, taught at Wikwemikong Girl's School. Number enrolled this year, 20; number present at my visit, 18. Classified, First Book, ten; Second Book, eight. Subjects taught, reading, writing, spelling, and a little addition.

School room very small—about 12x18 feet. No blackboard, no maps, no copies, no desks. All the requisites consisted of 12 books and 8 slates.

Children very much excited. The teacher lives and has her bed in the school room. Teacher has very considerable difficulty in comprehending English.

4. *Wikwemikong*.—Teacher, Miss Catherine Gallow, educated at Wikwemikong, has scarcely any knowledge of English: could get but very little information from her, as she scarcely understood a word of what I said.

Number of pupils enrolled, 20; number present, 10. Classified, First Reader, six; Second Reader, none; Third Reader, four.

The pupils, I may say, have not a word of English: heard them read and spell, which they did surprisingly well, considering that they knew nothing of what they were saying: their writing was good. The school house is a fair log building used at present for a church: the teacher lives in it.

5. *Shequiamah* (Church of England). The teacher is Mr. Fred. Frost (white), who was educated at the Grammar School, Ware, England, and is a clergyman of the Church of England. Mr. Frost was absent at the time of my visit, being in Toronto for medical advice. Mrs. Frost had charge of the school during his absence.

Number of pupils enrolled, 31; number present, 16. Classified, First Book, four; Second Book, two; Third Book, ten. Subjects taught are reading, writing, spelling, arithmetic, geography and Church Catechism.

6. *Birch Island*.—At the request of Mr. Phipps, Indian Agent, I examined Miss Martha Esquima, a young Indian woman, sixteen years of age, with a view to ascertain her fitness as a teacher for an Indian school on Birch Island. She got her education at the Wawanosh Home, Sault Ste. Marie, where she studied for four years. I examined her in reading, spelling, writing, addition and subtraction: she read very well, and her writing was good: in spelling she made sixty per cent. on my test: her arithmetic was not good. I granted her a temporary certificate for six months, until they could procure a more competent teacher.

This school has never been in operation before. The Indians on this Reserve are Protestants.

7. *Serpent River*.—Teacher, Mrs. Sophia Peltier; has no certificate: was educated at Wikwemikong, and speaks English fairly. Number of pupils enrolled, eighteen: number present, sixteen: number on Reserve about thirty. The classification was more correct than in any of the previous schools, the pupils being all in the First Reader.

Subjects taught are reading, spelling, writing and addition. Pupils are just commencing to write the letters of the alphabet: they know very little English: the teacher conducts exercises in English conversation for an hour daily. The school house is about eighteen by fifteen feet: has no desks, but four benches, and the blackboard is about thirty by fifteen inches. Teacher and her husband live in the school house, with their cooking-stove, cradle, cupboard, &c.

8. *Mississauga*.—Teacher, Mrs. Mary Cada (white), educated at Public School, Chatham. Number enrolled, sixteen; number present, six. Classified, First Reader, five; Second Reader, one. One girl, who had attended the Public School at Bruce Mines, was very clever and did her work well; spoke good English: the others knew little or nothing.

The school was just commenced about a month, after having been closed about two years. School-house, a log building 18x24 feet, used as a dwelling at present. The furniture consists of two beds, two large trunks, a cooking stove, cupboard, kettles, tin pails, &c: no desks: benches resting on chairs.

9. *Garden River* (Church of England).—Teacher, Mr. Jas. H. Gallaher (white). Educated at Trinity College, Dublin: is a deacon in the church. Number enrolled since 1st January, twenty-one; number present, eight (boys); all in the First Reader.

School house: a frame building, very much dilapidated, with four desks and a few benches; a few tablets; no maps.

The teacher appears to be faithful and diligent, and it is to be hoped the school will improve under his management. At present it is in a low condition.

10. *Garden River* (Roman Catholic). Principal, Rev. Father Ouelette; assistant teacher, Edward Ray, who holds a Second Class Certificate from Hammersmith Model School, England.

Number of Pupils on Reserve about	60
Number on the Roll	53
Number Present	35

First Class; Part 1, thirteen; Part 2, ten; Second Class, nine; Third Class, three
Hours of teaching, 9 to 11.30 a.m.; 1 to 3.30 p.m.

11. *Shingwauk Home* (Boys).—Principal, Rev. E. F. Wilson; assistant teacher, W. H. Wotton, educated at St. George's School, Bristol, England. Number enrolled, twenty-six; number present, twenty; and two white boys, twenty-two.

Classified, First Book, eight; Second Book, five; Third Book, four; Fourth Book, five. Subjects taught: reading, writing, spelling, arithmetic, geography, grammar, composition, history, singing, and free hand drawing. Hours, 9 a.m. to 12; 3 to 5 p.m., and one hour every evening.

Examined the Second, Third, and Fourth Classes, in reading, dictionary, writing, arithmetic, drawing and singing: the classes did very well in all subjects, especially writing and spelling: they all appear to understand and speak English well—the tuition and conversation being all in English—no Indian spoken on penalty of having to write 500 words. Good comfortable school-room, dormitories and dining-room; also a shoe shop and carpenters' shop attached to the institution: appears to be doing excellent work.

12. *Wawanosh Home* (Girls). Teacher, Miss Alexia V. Cunningham. Educated at Meaford High School, Ontario, but holds no certificate.

Number of Pupils Enrolled	20
Number Present	16
Classified—First Reader	6
Second "	6
Third "	2
Fourth "	2

The classification is too high. I heard three classes in reading, spelling, writing and mental arithmetic: the pupils did fairly well, although not equal to the boys at the Shingwauk; neither do they appear to understand English so well. The present teacher, Miss Cunningham, has been there but a short time.

Besides the literary training, the girls are also taught sewing, knitting, laundry work, and cooking.

They all live in the Home, which, like the Shingwauk, is a comfortable stone building.

13. *Fort William* (Boys). Teacher, Mrs. Jane Boucher; taught at Fort William Convent several years ago; speaks good English, but otherwise appears quite illiterate. She said herself she had scarcely opened a book in six years, and had forgotten nearly all she ever knew.

School-house, a good comfortable room, well lathed and plastered, but kept in a most filthy and disorderly condition. Everything about the school indicates the unfitness of the teacher.

The school is supplied with maps of the Continents and World, a fair blackboard and some desks which are not very suitable.

The number enrolled is twenty four; out of which, four were present. The boys appear to come to school at any hour that suits them, and do just about what they please when they are there.

The teacher said she also kept a boarding house for some men who were working on the river: and I think by all means she should be relieved of her school duties in order that she may devote all her attention to the boarding house: I am persuaded it would be much better for both.

14. *Post-Wedonia* (Girls).—Teacher, Miss Lemane, educated in Germany; appears to be an excellent teacher, and has her school in a very creditable condition.

Number Enrolled	50
Number Present	30

Classified: First Reader, thirteen; Second Reader, eight; Third Reader, six, and three in the kitchen.

The subjects taught are the usual ones. Heard the Third Class in reading, geography and singing: class acquitted itself well. Examined the copy-books, which I found very neatly kept and well written. System and method are apparent throughout the whole institution.

The school is industrial as well as literary; the girls being taught sewing, knitting, spinning and weaving, as well as laundry and kitchen work. The pupils live in the "Home" and appear very neat, clean and tidy. The school room is at present a little crowded, but a fine new large building is in course of erection, and will soon be completed.

South Bay.—*West Bay* and *Sheshegewaning* schools on Manitoulin Island, were closed at the time of my visit.

Sagamok and *Red Rock* I was unable to visit for want of time.

July, 1884.

Second visit.—*South Bay.*—Teacher, Miss Theresa Akiwens, a young Indian girl, about seventeen years of age: her knowledge of English very limited indeed: answers the most ordinary questions with very great difficulty. Number of pupils enrolled, eighteen: number present, nine: all in First Reader. Pupils have no knowledge whatever of English, and the teacher is able to convey but very little to them, of the subject of their lesson.

The school furniture and apparatus consist of a stove, six or seven benches, and a few broken slates and torn books. The teacher lives in the school-room.

Buywaks.—Teacher, Miss Agatha Gabow, who appears to be rather intelligent, and speaks English fairly, although her pupils understand but very little. Number enrolled, eighteen, and number present, nine; all in the First Reader. Furniture consists of a stove, four benches, teacher's bed, and one or two tablets. Indians promised to erect a new school-house. Pupils attend very irregularly.

Wikwemikong—(Boys).—Teacher, Mr. Stephen Dufresne, educated at St. Hyacinthe, speaks English fairly, but with a decided French accent. Number of pupils enrolled forty-seven; number present, twenty-two: classified as follows, viz.: two in Fourth Reader; three in Third Reader; seven in Second Reader, and ten in First Book.

Pupils read fairly well, and appeared to have a good idea of the meaning of their lessons. As usual with Indian children, they write and spell well, but have very little beyond a mechanical knowledge of arithmetic. The readers used are the Christian Brothers series.

This school is also industrial; carpentry, blacksmithing and shoemaking being taught to such boys as desire to acquire these trades. The school is fairly well supplied with maps, books, tablets, &c.

Wikwemikong—(Girls).—Teacher, Miss Lucy Haessly; assistant teacher, Miss Rosa Kintz; both of whom speak English fluently.

Number of pupils enrolled, seventy-one: number present, forty-seven: classified as follows:—four in Fifth Reader; six in Fourth Reader; four in Third Reader; seventeen in Second Reader, and sixteen in First Book. The readers used are the Metropolitan Series, but the pupils appear to be classified much beyond their capacity. I consider the Fifth and Fourth classes should not be beyond the Third Reader.

Knitting, sewing, spinning, weaving and other branches of household economy are taught. The school-room is much too small, and the seating very badly arranged.

Wawenosh. Teacher, Miss Alexia V. Cunningham, a young Canadian lady of good education and some experience in teaching. The school is under the management of the Church of England, and intended for the education of Indian girls *only*; it is much similar to the girls' school at Wikwemikong being industrial as well as literary. The "Home," as it is called, is a large substantial stone building in which the pupils live and board under the care of a matron. The number of pupils at the time of my visit in October was seventeen: classified thus—ten in First Book, four in Second Book, and three in Third Book. The readers used are the Ontario Readers. The reading, writing and spelling may be called average; but the arithmetic, embracing addition, subtraction, and division, is purely mechanical, with scarcely any idea of the practical application of the rules.

Shingwauk.—Principal, Rev. E. F. Wilson; assistant teacher, Mr. W. H. Wotton. This institution is also managed by the Church of England, and designed for the training of Indian boys in industrial, as well as literary branches. There is a large stone building, with school-room, dining-room, and dormitories: the school-room is not well arranged, and the dormitories should be better ventilated.

The number of pupils present was thirty-one: the subjects of study are reading, spelling, writing, arithmetic, geography, grammar, composition and history. I heard classes in the first five subjects: all did well in writing and spelling, fairly in reading, and *one* boy did very well in arithmetic. The pupils are classified rather beyond their proper standing, and I fear the teachers attempt to teach too much.

General Remarks.—All the Indian schools that I have yet visited are sadly deficient in school apparatus and equipments, such as maps, blackboards, books, slates, &c. According to instructions of last April, I made out a list of requirements for each school separately, and forwarded the same with my report in July; but so far no action appears to have been taken.

With the exception of the two Protestant schools at Sault St. Marie, the one at Garden River, and the two Catholic ones at Wikwemikong, the teachers are all females and natives: they have little education, and hold no certificates of any kind.

The schools are not in operation over half the time; a great portion of the year being occupied with sugar-making, fishing, blueberry and cranberry picking. The parents, generally, are so careless about the education of their children, that the attendance is very irregular, even when the schools are open.

In order to make these schools more efficient, and in some measure worthy the name of schools at all, I would most respectfully recommend to the Department, the following suggestions, as worthy of consideration: I know it is a delicate question to deal with these schools, but certainly some change is urgently needed.

Suggestions.—The Department should insist that the Indians would provide a comfortable room, sufficiently large, and with suitable seats and desks.

The Department to supply the necessary books, slates, &c., as reported by the Inspector or Indian Agent from time to time.

The teachers should be obliged to pass some kind of examination, however simple, and hold certificates to that effect: I am also quite willing that the church authorities, who have established these schools, should determine what the status of such examination shall be. The great point is that the teachers should feel that they have to make some little preparation to pass the examination, and obtain certificates entitling them to teach. It is quite evident to me that the present system of appointing *any* person to the charge of a school, can never be productive of results, in any way commensurate with the yearly expenditure on the schools.

I think arrangements might be made whereby special classes, under the charge of competent instructors, would be opened at Shingwauk Home, and at Wikwemikong, for training Indian teachers: then all intending candidates should be obliged to attend these classes, till such time as they were able to pass the prescribed examination.

Instead of a yearly allowance being paid to the teachers as at present, I would suggest that they be paid a *monthly* salary, and only for the time actually employed: I am convinced many of them do not work half the time during the year, while drawing probably a year's pay.

I would also suggest that these schools be supplied with Daily Registers, similar to those in the Ontario Public Schools; and that certified returns of half-yearly attendance be made to the inspectors.

If the annuity for children between the ages of seven and thirteen, could be made conditional on their attendance at school for at least *four* months in the year; or otherwise, a bonus offered to all such, as did so attend, I believe a marked improvement in the attendance would be the result.

December, 1884.

JOHN DEARNESS, ESQ., INSPECTOR, EAST MIDDLESEX.

Indian Schools, Oneida Reservation

Second Visit. On the 9th October, in company with Mr. Thos. Gordon, the Indian Agent, I visited the three schools to see how far the suggestions of my former visits had been effected.

School No. 1. Some of the urgently needed repairs have been made; the house is embanked very nicely, and will be tolerably comfortable for the winter. The trustees assure me that they will have new desks in less than a fortnight.

No. 2.—Mr. Schuyler, teacher, did not write last July at the High School Entrance Examination, but promises to do so next Christmas. The desks in this school are very bad, in fact, there are only two desks; they are constructed of long boards attached with hinges to the wall; the seats are long benches without desks; the teacher asks for a half-dozen geographies, but he could do more good if he were supplied with maps and a globe. The great defect in this and the other schools is the learning of words without understanding their meaning.

No. 3.—Mr. Elijah Sickles, teacher, wrote at the High School Entrance Examination; failed, but promises to study and write again next December. He is working faithfully. Since my last visit he has had the interior of the school-room painted and papered—did it himself; raised the money by a tea-meeting. The school is now supplied with maps, books, a globe and increased blackboard facilities. There is yet a debt of \$250 on the building. The teacher says they have paid \$800 or \$900 on it, and feel that they have exhausted their resources. I think they deserve encouragement, and would recommend that the Indian Department assist them to pay the balance of the Debt.

Observations lead me to suggest that all books furnished by the Department should be stamped, and rules should be adopted with a view to their care and preservation.

December, 1884.

4. COLLEGIATE INSTITUTE AND HIGH SCHOOL INSPECTION.

Report of J. E. Hodyson, Esq., M.A., Inspector.

Entrance Examination.—As I remarked in a former report, though the questions proposed to the candidates at all the High Schools and Collegiate Institutes are uniform, the standards adopted by the different local boards of examiners vary considerably. We need not expect to secure uniformity of standards all over the Province, as there are so many Local Boards—as many as there are High Schools—but it should be possible to secure a fair degree of uniformity in the schools of the same inspectorate. With this end in view, I think it would be well if the County Inspectors, who are members of each local board in their respective districts, were to arrange with the substitutes whom they appoint to preside at these High Schools at which they cannot be present themselves, a plan of

awarding marks for imperfect answers. It is in judging imperfect answers that discrepancies are most observed. It is not very uncommon to find in the same county two schools, at one of which through leniency in marking, most of the candidates are passed: whilst at the other, through rigidity in assigning marks, most of the candidates are plucked. The adoption of the plan suggested would probably result in doing away with both extremes. The practice on the part of local examiners of "recommending" candidates that have failed by a few marks on one subject, but have secured a good aggregate, is not objectionable, particularly if the candidates recommended are older than the average. On the whole, the work of the Local Boards is well done and their reports are generally confirmed. There is, however, a peculiar circumstance in connection with the entrance examinations, *i. e.*, no candidate is ever rejected for bad reading or bad writing: judging by the average percentage gained in these subjects, one would suppose that they are the most carefully looked after of all in the Public Schools: whilst, as a matter of fact, the reading and the writing of entrants (particularly the writing of the boys) are found in the lowest forms of the High Schools to be very poor. Looked at from this point of view these subjects seem to be neglected in the Public Schools: this is to be deprecated as being detrimental to the interests of Public School, as well as of High School training. Pupils entering the High School with bad habits in reading and in writing lose time in unlearning what they have learned in the Primary Schools. With regard to the Public Schools, it is not to be forgotten that by far the most of the pupils do not go beyond the fourth class, and never enter a High School: so that for them the entrance examination limits, or the limits of the fourth class in the Public School, are the measure of the attainments with which they enter on the active duties of life. It is, I think, of almost equal importance that our youth should leave school intelligent readers and legible writers, as good grammarians and accurate arithmeticians. We can do something towards accomplishing this, by means of the entrance examination. For the character of an examination determines in a great measure the character of the teaching adopted in preparing candidates for that examination: those subjects to which most marks are assigned will receive most attention in the schools, and *vice versa*. According to our present schedule, but thirty marks are assigned to reading, and twenty to writing: whilst to arithmetic and grammar one hundred marks each are assigned. Now, if we were to double the marks for reading, or even assign it one hundred marks, we could bring it about by insisting on the local examiners' examining closely (awarding marks under definite heads, such as orthoepy, emphasis, etc.) that this subject would receive in the Public Schools such a share of attention as its importance justifies.

• Writing could be dealt with in a similar way: the marks might be increased to fifty or sixty, and a closer examination of the work might be enjoined on the examiners.

Preparatory Forms.—There is a clause in the High School Act that empowers Boards of High School Trustees to establish preparatory classes, apart from the Public School, to prepare pupils for entrance to the High Schools. In the early days of the Grammar (now High) Schools, owing partly to the elementary character of the work done in the Public Schools, partly to the hostility that existed between the two classes of schools, the existence of this provision was a source of strength to the Grammar Schools, and many Boards established and maintained classes of this kind. For the following reasons it seems to me that the time has come for their abolition:—

(a) The Public Schools have attained to such efficiency that they are thoroughly capable of preparing candidates for entrance. The truth of this is apparent from the fact that preparatory forms have been voluntarily discontinued in all the schools, save three or four. The programme of studies in the Public Schools more than overtakes the requirements of entrance: indeed, the work laid down for in the fifth and sixth forms is, with the exception of languages and science, on a par with that in the second forms of the High Schools.

(b) Besides being unnecessary, these classes are hurtful in that they tend to foster a tendency towards exclusiveness and a feeling of superiority on the part of their pupils: since the latter are apt to think themselves formed of finer clay than their contemporaries in the Public Schools.

(c) They are not under Government control and there are no departmental regulations as to the qualifications of the teachers, the Boards being at liberty to engage any one they please.

(d) In spite of the regulation to the contrary, the members of the regular High School staff do sometimes take part in teaching these classes.

EQUIPMENT OF COLLEGIATE INSTITUTES AND HIGH SCHOOLS.

(a) *The Collegiate Institutes.*—The regulations regarding the establishment and maintenance of Collegiate Institutes set forth the following requirements:—

(1) Suitable school-buildings, out-buildings, grounds and appliances for physical training.

(2) Library, containing standard books of reference bearing on the subjects of the programme.

(3) Laboratory, with all necessary chemicals and appliances for teaching the subjects of elementary science.

(4) Four masters at least, each of whom shall be specially qualified to give instruction in one of the following departments:—Classics, Mathematics, Natural Science, and Modern Languages, including English.

(5) The other members of the teaching staff must possess such qualifications as will secure thorough instruction in all the subjects on the curriculum of studies for the time being sanctioned by the Education Department for Collegiate Institutes.

Of the seventeen Collegiate Institutes in the Province, I have this year visited seven, viz.:—Barrie, Collingwood, London, Stratford, St. Catharines, St. Marys, St. Thomas.

In each of these the requirements enumerated above are complied with in most respects. The school buildings and out buildings are good; the only drawback with regard to the play grounds is that in some cases, owing to the situation of the school, grounds have to be rented at a distance. There is a fairly equipped gymnasium at Galt, and another at Stratford, but appliances for physical training are not generally found. Drill and calisthenics are taught in all during the fine weather, but are generally dropped during the winter months on account of the lack of suitable accommodation. There should be a gymnasium in connection with each Collegiate Institute.

The laboratories are fairly equipped, so far as apparatus and chemicals are concerned, but are deficient in tables, or desks, at which the students might make experiments for themselves.

Libraries of reference are the weakest point in the equipment of the Collegiate Institutes, but as the existence of these libraries is hereafter to be made a *sine qua non* of Collegiate Institute standing, it is more than likely that this want will be supplied during the coming year.

(b) *The High Schools.*—There are eighty-nine High-Schools, each employing from two to four regular teachers: all the head masters, except two, are graduates, and these two held certificates of qualification prior to 1874. In most of the schools that employ two masters, the assistants are either undergraduates, or the holders of Public School teachers' certificates. The buildings are nearly all of brick or of stone; there are but six frame ones, and of these the building at Niagara Falls South* is satisfactory in all respects except situation; the others are unsatisfactory, particularly that at Mount Forest, which is a mere barrack. When the High School of the latter place was opened in the present building, it was with a distinct understanding between the Education Department and the local authorities, that a new and suitable building would be erected within a reasonable time: since then several years have elapsed, but no new building has been erected. The grounds are even less adapted for High School purposes than is the building, horse and cattle fairs being held on them from time to time during the spring, summer and autumn months, much to the distraction of both teachers and pupils.

* Formerly Drummondville.

The building at Windsor, too, is ill-adapted for the purpose that it serves, but there is reason to believe that steps will soon be taken by the Board to secure proper accommodation. The other frame school-houses, though by no means what they should be, are situated in villages on whose financial resources the erection of new buildings might be too heavy a burden.

Of the brick or stone buildings, that at Bowmanville furnishes the worst accommodation: it is time that more commodious quarters were provided, particularly as the rooms now used for High School purposes might be advantageously handed over to the Public School authorities. The attention of the Board has frequently been called to the unsuitable character of the building, but hitherto without effect.

At Vienna the building is sufficiently commodious, but, with the exception of the staff, badly equipped in every way: a somewhat similar state of affairs exists at Cayuga, Alexandria, and Oakwood.

As a rule the High School buildings are substantial, and furnished with comfortable desks and seats. A very serious drawback, however, exists in the lack of ventilation, for which, in very many cases, adequate provision has not been made. Many schools have no means of ventilation except the doors and windows, and this method of purifying the air is, during the winter months, feasible at periods of intermission only: and even then, to be effective, the windows should be open at both top and bottom: at the top to give egress to the hot, vitiated air, at the bottom to allow ingress to the cool, pure air: unfortunately, most of the windows admit of being opened at the bottom only. The ventilation of school-rooms is a subject that is entitled to more serious consideration than it receives. I am sure that much of the ill health of pupils that is charged to over-pressure, is really due to their confinement in close, stuffy rooms.

Nearly all the High Schools are well supplied with maps and globes, and with chemicals and apparatus sufficient for the performance of experiments, illustrative of the work required of candidates for second-class teachers' certificates: but, as in the case of the Collegiate Institutes, very few opportunities of making experiments are afforded the students.

Berlin High School is one exception to this rule. In it the pupils, after seeing the experiments performed by the teacher are called upon to perform them for themselves; and their deftness in handling apparatus, as well as their accuracy in summarizing results, make it apparent that to them the study of chemistry has some educational value beyond training the memory.

The grounds vary in extent, from seven acres at Napance, to one-eighth of an acre at Windsor. In some cases little or no effort is made to render them attractive by levelling, tree-planting, etc.: by this neglect, there is lost an opportunity of encouraging in the pupils an ambition for neatness in their surroundings. A play-ground enclosed by a dilapidated fence, and strewn with shinty sticks and scraps of waste paper, has a bad effect, tending as it does to make untidiness more familiar, and so, less distasteful.

There are not many schools in which any attempt is made to adorn the class rooms: the walls are generally without pictures, and the windows frequently without blinds. Now that drawing is being taken up so generally the walls might be brightened, and the sombreness of the rooms relieved, by the products of the pupils' pencils.

Of all living rooms the school should be the brightest and most attractive. The rule with us is to have the ceiling and the walls (except where occupied by black-boards) of a glaring or dingy whiteness. May not the extreme contrast between white and black have something to do with the growing prevalence of short-sightedness among the young? The walls should be tinted with a softer colour.

Appliances for physical culture (except, in a few places, clubs and dumb-bells) are rarely provided, but at nearly every school some outdoor game is systematically and scientifically played—foot ball being the most prevalent. The excellent influence derivable from this phase of school life was, until recent years, but little regarded, except at some of the boarding schools, such as Galt, U. C. C., Trin. Coll. School. As a matter of fact, the existence of a well organized and well managed club, be it foot ball, base ball, cricket, or lacrosse, is a potent means of developing in the pupils, not only physical qualities, such as breadth of shoulders, fleetness of foot, quickness of eye and of hand, but also qualities

of character that will stand their possessors in good stead through their life work. It has been said that many of Britain's most distinguished sons have owed more of their success as soldiers and as administrators to the pluck, endurance, and judgment that they developed in the cricket fields at Eton and Rugby, than to the scholarship that they acquired within the classic walls of these seats of learning. *In ludo veritas*, and those masters who take part in the games of their pupils, as many of them do, have in the field opportunities of discovering, and either checking or encouraging, traits of character in the boys, that they would be long in finding out in connection with class-room work. Nor is this mingling of teacher and pupils on a common level without its advantages to the former: it helps to keep him young and to check that tendency to dogmatism, the *cacoethes docendi*, of which we are all conscious as resulting from the habitual exercise of indisputable authority.

The Literary Societies, or Reading Clubs, which are found in connection with nearly all the High Schools and Collegiate Institutes, are doing good auxiliary work, and are worthy of being encouraged: their aim is to help the students to form habits of independent thought by the discussion (under the guidance and influence of the teachers who are always connected with the management) of historical, literary, or practical questions, connected either directly or indirectly with the subjects embraced in their course of study. The proceedings usually consist of readings or recitations, an essay, a debate, and music. These institutions are well adapted to acquaint and familiarize their members with the regular procedure of business meetings, as well as to give them confidence in themselves and to foster a taste for supplementary reading in search of information bearing not so much on the examinations, (thoughts of which are, like the poor, "always with them,") as on the subject under immediate discussion. But the information acquired in this independent way, as well as the habit of connecting cause and effect that is engendered by it, are of very great use even for examination purposes. The information is readily available, and the habit asserts itself when both are welcome.

The lack of libraries of reference in the Schools is a serious drawback to the success of this important part of High School training. Each school should be supplied with at least the standard dictionaries of language and literature, with the histories of ancient and modern times, selections from British poets and novelists, some volumes of essays and biographies, and if possible, with an encyclopædia. In several schools the pupils have taken the initiative in supplying this want, and by giving public entertainments have secured the means of procuring the nucleus of a library. There is good reason to believe, moreover, that the new regulation, in accordance with which a considerable portion of the Legislative grant is to be distributed on the basis of school appliances and appurtenances, will have the effect of causing the Boards of Trustees to devote some money to the purchase of books.

The pupils in the higher forms of the schools may be divided into three classes (*a*) those preparing to pass the teachers' examination, (*b*) those looking forward to matriculation at one of the Universities, (*c*) those having no outside examination in view. Though the Education Department, in order to avoid the multiplication of classes, adopts as nearly as possible the subjects of the matriculation examination as the basis of the course prescribed for intending teachers, the two examinations differ so widely in character that it is not found desirable to combine the two classes of candidates. The university authorities, for instance, are content with a single paper in pass mathematics, including arithmetic, algebra, and euclid; at the teachers' examination there are four papers to cover this ground: at the university one paper suffices for English, including grammar, composition, dictation, and English literature; the candidate for a teachers' certificate has to take a paper on each of these subjects; the pass matriculant is admitted by writing in seven or eight papers, the teacher has to pass on at least fourteen. It may be thought that the difference in the objects of these examinations justifies the difference in their character, the teachers' examination, being a final examination—a test of knowledge with a view to the imparting of that knowledge whilst the matriculation examination is a preparatory examination, a test of the candidate's fitness to acquire further knowledge. Though this is true, I do not think that a more searching examination at matriculation would have any but a good effect in the proficiency of undergraduates, and I am quite sure that it would be a source of great relief to many of the masters.

For the third class pupils—those not looking forward to any examination—the institution of the proposed leaving examination will be a great benefit, a sort of *deus ex machina*. It has been long felt that there is need of something to keep up the interest and arouse the ambition of boys intended for a business career, and of girls that do not propose either to teach or to take a college course. This want may be supplied by the leaving examination, which should be and, I hope, will be of such a nature as to ensure that pupils holding a graduating diploma from any of our High Schools or Collegiate Institutes, shall be in possession of sufficient culture and practical knowledge to ensure that they will be efficient laborers in any field of life to which their circumstances may call them.

As to the character of the work that is being done in the Collegiate Institutes and High Schools, there is little or no change to be remarked. Hard work on the part of both teachers and pupils is the rule, and the methods adopted in teaching most subjects are good. The discipline in most of the schools is excellent; the intercourse between teachers and pupils is unconstrained, being free from harshness on the one side, and presumption on the other; corporal punishment is rarely resorted to, suspension or expulsion scarcely ever.

Toronto, December, 1884.

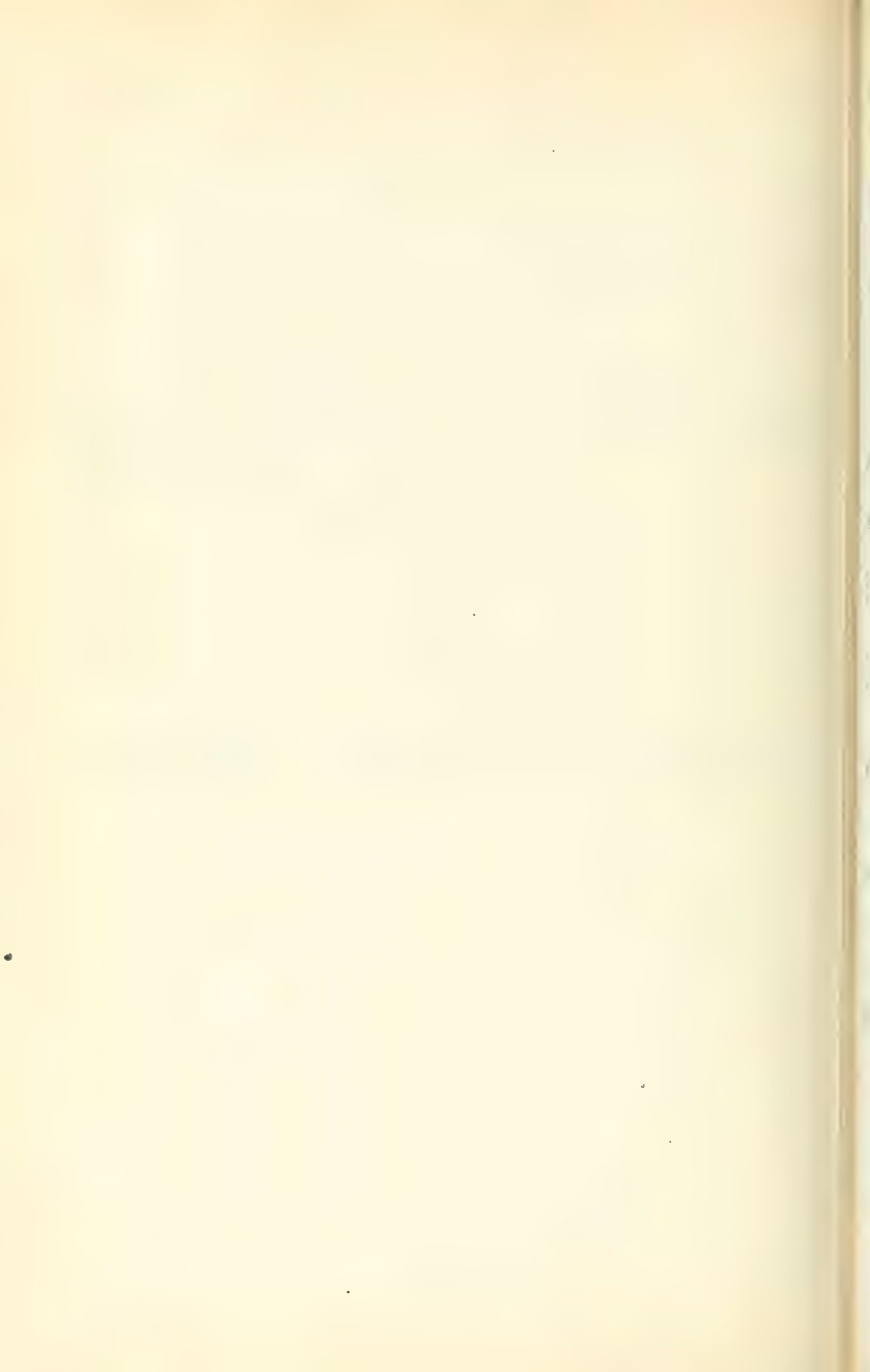
PART III.

UNIVERSITY OF TORONTO :

UNIVERSITY COLLEGE, TORONTO :

SCHOOL OF PRACTICAL SCIENCE;

AND UPPER CANADA COLLEGE.



PART III.

UNIVERSITY OF TORONTO: UNIVERSITY COLLEGE, TORONTO: SCHOOL OF PRACTICAL SCIENCE; AND UPPER CANADA COLLEGE.

1. ANNUAL REPORT OF THE UNIVERSITY OF TORONTO, FOR 1883-4.

To His Honor, the Honorable John Beverley Robinson, Lieutenant Governor of the Province of Ontario, Visitor of the University of Toronto:

MAY IT PLEASE YOUR HONOR:

The Chancellor, Vice-Chancellor, and members of the Senate of the University of Toronto, have the honor to present their Report on the condition and progress of the University, for the year 1883-4.

The following tabulated statement of the admissions to degrees and *ad eundem statum*, and of the number who matriculated in the different faculties, is submitted:

<i>Law</i> —	
Matriculation	10
Degree of LL.B.	1
<i>Medicine</i> —	
Matriculation	26
Degree of M.B.	10
“ “ M.D.	2
<i>Arts</i> —	
Matriculation	170
Ad eundem statum	5
Degree of B.A.	65
“ “ M.A.	3

During the year 737 candidates underwent examination in the different faculties as follows:

Faculty of Law	27
“ “ Medicine	77
“ “ Arts	562
Local Examination for Women	71
Total	737

The class lists of the year are appended.

All of which is respectfully submitted.

(signed) W. MULOCK,
Vice-Chancellor.

2. ANNUAL REPORT OF THE COUNCIL OF UNIVERSITY COLLEGE, TORONTO, FOR 1883-4.

To His Honor, the Honorable John Beverley Robinson, Lieutenant-Governor of the Province of Ontario, and Visitor of University College :

MAY IT PLEASE YOUR HONOR :—

The President and Council of University College, beg leave to present to your Honor, as Visitor on behalf of the Crown, the following report on the progress and present condition of the College for the year 1884.

They are gratified in being able to report that the College continues to receive the best proof of its acceptability to the people of this Province, in the number of students who avail themselves of the educational advantages which it offers. The students entering for the first time in the regular Arts course for the current academic year, number one hundred and thirty-three. This is a larger entrance than in any previous year, and furnishes a gratifying evidence of progress, when compared with the experience of previous years, from 1854, when the College received its first matriculated students, amounting then only to eleven.

But another and still more satisfactory evidence of healthful progress is to be found in the relative number of matriculated students pursuing the full course of undergraduate studies, as compared with those who are only taking partial courses. In 1854 when this College first entered fully on its work, out of the total number of students in attendance on lectures, only twenty-five per cent. were matriculated students, whereas even when the students of the School of Science now attending lectures in the College are included, the number of matriculated students has risen to seventy-six per cent., or, exclusive of students of the School of Science, to eighty-five per cent., now taking the full undergraduate courses of study prescribed by the University for the degree of B.A.

With the continued increase in the number of students entering the College, the attention of the Council has been directed to the manifest need of a greater division of classes in the teaching of those subjects which specially require tutorial work, or individual superintendence in the laboratory. With a view to provide the requisite increase of the teaching staff, the College Council in 1881, acting in concert with the University, organized a plan for the establishment of tutorial fellowships in the various departments ; and with a view to provide the requisite funds, raised the annual lecture fees from \$10 to \$20. The plan has been found to work very satisfactorily, in so far as it secures to some extent the required division of teaching, so indispensable for the practical work in the Science Departments, and in the direct tutorial instruction in all the honor work of the different years. It also furnishes very desirable facilities and inducements for post-graduate training in the higher branches of study.

On the other hand the College Council has reason to believe that the apprehensions indicated in a former report were well founded, as the results appear to show that the increased scale of fees tends to check the attendance on the College lectures of a class of students who have the strongest claims on the advantages which a Provincial College is designed to afford. While, as already shown, the number of entrants continues to increase, students of the later years are now availing themselves of the exemption from attendance on lectures to an extent unknown before. This is specially the case in the final year of the undergraduate course.

In the Academic year, 1882-3, the number of students in attendance on the lectures of senior years was :—third year, fifty-nine ; fourth year, seventy-one ; in the year 1883-4 it was : third year, sixty-six ; fourth year, fifty-three. Should the experience of future years confirm the belief that this falling off in the number of students availing themselves of the advantages of College training, especially in the final year, is due to the increased charge for attendance on lectures, it will be deserving of mature consideration by the Government whether they ought not to provide the requisite funds for tutorial fellowships from some other source than lecture fees.

Since the reorganisation of the College and University on their present basis, in 1853, the degrees conferred in the Faculty of Arts, Law and Medicine on students of

University College, as distinguished from graduates of the University who received their preparatory training in other Colleges, are as follows :—LL.D., ten ; LL.B., forty-nine ; M.D., nineteen ; M.B., sixty-four ; M.A., two hundred and thirty-seven ; B.A., eight hundred and fifty-six ; making a total of twelve hundred and thirty-five degrees conferred on undergraduates who have pursued their studies in University College, and have proceeded to degrees in the various Faculties of the University.

Among the students who have thus gone forth from the College, many have taken an honorable rank in the University Honor lists, and have since given practical evidence of the value of the instruction received in the College by the influential professional standing attained by some, and the important positions now filled by many of them, not only in the educational institutions of this and other Provinces of the Dominion, but elsewhere beyond its limits. Some have not only distinguished themselves at the bar, but have risen to the highest judicial positions, while others occupy seats both in the Provincial Legislature and the Parliament of the Dominion. A larger number have been entrusted with the responsible duties of Principals, Professors and Lecturers in the Colleges and Normal Schools of this and other Provinces ; and one hundred and seventeen are at present masters and teachers ; fifty-five of them being Principals and Head-masters of Collegiate Institutes and High Schools of the Province. Looking, therefore, to the period during which University College has been in operation, such results may be confidently appealed to in evidence of its value as a Provincial Institution.

The following constitute the present teaching staff of University College, including the fellows appointed under the recent statute above referred to :—

Classical Literature, embracing the Greek and Latin Languages : Professor :—Maurice

Hutton, M.A., Fellow of Merton College, Oxford.

Classical Tutor :—William Dale, M. A.

Fellow in Classics :—J. C. Robertson, B.A.

Oriental Literature, including Hebrew, Chaldee, Syriac and Arabic : Lecturer :—Jacob M. Hirschfelder, Esq.

German : Lecturer :—W. H. VanderSmitten, M.A.

French : Lecturer :—John Squair, B.A.

Fellow in French and German :—Charles Whetham, B.A.

English Language, and Literature and Italian : Lecturer :—David R. Keys, B.A.

Ancient and Modern History and Ethnology :—Professor :—Daniel Wilson, LL.D., F.R.S.E.

Logic, Metaphysics and Ethics : Professor :—G. Paxton Young, M. A., LL.D. ; Fellow :—A. S. Johnston, B.A.

Physics and Mathematics : Professor :—James Loudon M.A. ; Mathematical Tutor :—Alfred Baker, M.A. ; Demonstrator in Physics :—W. J. Loudon, B.A. ; Fellow in Mathematics :—J. W. Reid, B.A. ; Fellow in Physics :—T. G. Campbell, B.A.

Mineralogy and Geology : Professor :—Edward J. Chapman, Ph. D., LL.D. ; Fellow :—H. R. Wood, B.A.

Biology : Professor :—R. Ramsay Wright, M.A., B. Sc. ; Fellow :—T. Mackenzie, B.A.

Chemistry : Professor :—William H. Pike, M.A., Ph. D. ; Fellow :—T. P. Hall, B.A.

Instruction is given by this staff of Professors, Lecturers and Fellows in the various branches embraced in the requirements of the University for standing and degrees in the Faculty of Arts. In addition to this, the arrangements provided for in the Act establishing a School of Practical Science, which admit of the attendance of students of the School at such lectures in University College as come within the course of its instruction, have been carried out under an Order in Council, so as at the same time to provide for the students of this College additional facilities, including practical instruction in the laboratories and lecture-rooms now under the joint conduct of Professors and Lecturers of both Institutions.

Since the last annual report, renewed efforts have been made to supply the deficiencies still existing in the philosophical apparatus provided for instruction in Physics, and especially in the branch of Electricity. With a view to this, an appeal has been made to the friends of the College to supplement the sum available for this purpose by private

contributions, and the liberal response already made, encourages the Council to hope that the entire sum required will speedily be at their disposal.

Examinations were held in Michaelmas and Easter Terms of the past academic year, and the Honors and prizes won by the successful competitors in the various departments, were awarded at the College Convocation held on the 17th of October, in the presence of His Honor, the Visitor; the Honorable the Minister of Education, and a large assembly of graduates and friends.

The Honor lists for the year, along with a synopsis of Lectures and other details relative to College work, will be found in the Calendar for the present year, of which a copy is herewith appended.

All of which is respectfully reported,

(Signed) DANIEL WILSON,
President.

UNIVERSITY COLLEGE,
Toronto, 5th December, 1884.

3. ANNUAL REPORT OF THE SCHOOL OF PRACTICAL SCIENCE, TORONTO.

To the Honorable G. W. Ross, M. P. P., Minister of Education.

SIR,—I have the honor to submit herewith the Report of the School of Practical Science, Toronto, for the year 1883-4:—

1. The Academic year commences with the opening of the School for lectures and practical work in October, and the Annual Report required from the Board of Management at this date, necessarily includes part of the work of two years, viz.:—that of the Easter Term of 1883-4, and the Michaelmas Term of 1884-5.

2 The following is a classified list of the students in attendance at the School during the above named Terms:—

<i>Engineering—</i>	Easter.	Michaelmas.
Regular students	21	33
Special "	5	8
<i>Mathematics and Physics—</i>		
Students in Engineering	22	33
Special students	5	8
<i>Chemistry—</i>		
Students from University College	79	81
Regular students in Engineering	22	33
" " Chemistry	—	1
Special Veterinary students	110	0
" Medical "	43	0
<i>Biology—</i>		
Students from University College	26	30
Special students (Medical)	38	0
<i>Mineralogy and Geology—</i>		
Students from University College	77	102
Regular students in Engineering	14	11
<i>Evening Lectures—</i>		
Chemistry	113	0

This table includes the regular students pursuing special subjects in the full courses taught in the School of Science, or proceeding to a diploma in the Department of Engineering, or to a degree in the University.

3. The fees of the Academic year, 1883, derived from students proceeding to a diploma of the School of Practical Science in the Department of Engineering, and paid to the Provincial Treasurer, amounted to \$900.

4. The work now carried on under the joint labors of the Professors and Lecturers of the School of Science, and of University College, has greatly increased the advantages enjoyed by the students of both institutions; and the students of the School now enjoy, equally with those of University College, all the advantages resulting from the tutorial services of the Fellows in the various departments included in the work of the school.

The following constitute the present teaching staff of the School of Practical Science:

J. Galbraith, M.A., Assoc. M. Inst. C.E., Professor of Engineering.

W. H. Ellis, M.A., M.D., Professor of Applied Chemistry.

W. H. Pike, M.A., Ph. D., Professor of Chemistry; T. P. Hare, B.A., Fellow.

E. J. Chapman, Ph. D., LL.D., Professor of Mineralogy and Geology; H. R. Wood, B.A., Fellow.

J. Loudon, M.A., Professor of Mathematics and Physics; Alfred Baker, M.A., Mathematical Tutor; J. W. Reid, B.A., Fellow; W. J. Loudon, B.A., Demonstrator in Physics; T. Mulvey, B.A., Fellow.

R. Ramsay Wright, M.A., B. Sc., Professor of Biology; A. B. McCallum, B.A., Fellow.

D. Wilson, LL.D., F.R.S.E., Professor of Ethnology.

5. Departments of Instruction.

(1) *Engineering*—

The following table shows the number of students proceeding to the Diploma in Civil Engineering, who presented themselves for examination in the session 1883-4:—

1884 EASTER EXAMINATION.

First year	9	students were examined and	6	passed.
Second "	8	" " " "	8	"
Third "	5	" " " "	5	"
Totals	22	" " " "	19	"

In the present session, Michaelmas Term, 1884, the number of students in attendance is: First year, twenty-two; second year, five; third year, six. Total, thirty-three regular students proceeding to the Diploma; besides eight special students, making a total of forty-one students at present in the Engineering Department.

Of the eight special students, two are preparing themselves for Electrical Engineering; three for Mechanical Engineering; one for diploma of P.L.S.; one for the Dominion Diploma in Higher Surveying, or D.L.S.; and one is taking General Engineering work.

The number of candidates who have already passed through the regular course in Civil Engineering, and obtained the Diploma of the School, is as follows:

1881—1	obtained the Diploma.
1882—3	" " "
1883—3	" " "
1884—5	" " "
Total,	12

Most of these gentlemen now occupy responsible positions in the Public Works of the Province or the Dominion, and many gratifying testimonials have been received by the Professor of Engineering in confirmation of their ability and proficiency.

The Senate of the University of Toronto, has recently passed a statute establishing the degree of C.E., open only to those who hold the diploma in Civil Engineering of this School of Practical Science. One indispensable condition for obtaining this degree, is that the candidate shall have spent three years on Engineering work after leaving this

school. The degree is thus a certificate that the holder has had six years training in his profession, three years of which shall have been spent in laying a scientific foundation for his future work.

The establishment of this degree supplies a want long felt by the profession in this Province. Hitherto the most general method of becoming a Civil Engineer in this country, has been for the aspirant to begin on railway or other engineering work, as a chain or rod man, and gradually to rise to the position of Assistant Engineer. At this stage it is usual for a man to assume the designation of C.E., and to be so considered by his fellow-professional men. If he has by this time gained sufficient experience and influence, the higher positions in the service are within his reach. The defects of this system are obvious. No examination was required as a test of his scientific knowledge, and no diploma was received from any properly constituted authority. In fact the profession has hitherto been simply a business open to any one, irrespective of his qualifications.

This state of affairs has been unsatisfactory to men who take an interest in their profession, and various attempts have been made by the older members of the profession in Canada to remedy it, by forming a Society of Civil Engineers similar to the Institution of Civil Engineers in Great Britain, and to the American Society of Civil Engineers in the United States; but hitherto little success has attended their efforts.

This Board feels confident that the establishment of the Department of Engineering in the School of Practical Science, and of the University degree of C.E. will do much to elevate the character of the profession, by affording young engineers an opportunity, both of obtaining the scientific knowledge necessary for successful practice, and of becoming properly accredited professional men. While any one is still at liberty to style himself a Civil Engineer, the fact that the number of students in the Department has steadily increased from seven in 1878, when the school was opened, to forty-one in the present session, shows that the young men of the country feel the importance of good training, and appreciate the opportunity for obtaining it which the School of Practical Science now places within their reach.

The necessity for an Assistant to the Professor of Engineering, was urged on the attention of the Government in the last Annual Report. The anticipations there stated with regard to the probable increase in the number of students have been realized, and the draughting room is in consequence inconveniently crowded. The recommendation which was made last year, that a Fellow in Engineering be appointed from among the graduates of the School at a similar salary to that assigned to Fellows of University College, viz. : \$500 per session, is again respectfully urged upon the consideration of the Government as the most economical means of providing in some degree for the requirements of this department: this is the least costly, and in some respects the best way of providing efficient assistance. The graduates of the School are familiar with the methods of teaching, and an instructor chosen from among them would be immediately useful; whereas a stranger would require considerable instruction in the methods followed, unless, indeed, the Government is prepared to offer an adequate salary to secure the services of an experienced teacher.

The Board would also urge that measures be taken as soon as possible to provide additional room for this department. Provision has been made by the Architect for the addition of another wing on the south side of the present building, by the completion of which the necessary accommodation may be secured.

(2) *Mathematics and Physics*—

The instruction in the various branches included in this department is carried on by Professor Loudon, M.A. : Mr. Alfred Baker, M.A., Mathematical Tutor ; and Mr. W. J. Loudon, B.A., Demonstrator in Physics ; assisted by Mr. W. J. Reid, B.A., Fellow in Mathematics ; and Mr. T. Mulvey, B.A., Fellow in Physics. This Department embraces all the branches in Mathematics and Physics required for students both of the School of Science and of University College.

The Physical Laboratory is now furnished with a valuable collection of instruments of precision in the branches of Dynamics, Sound, Light and Heat. In the last report, attention was drawn to the necessity for further additions to the philosophical apparatus,

and especially for the means of adequately illustrating the important branch of Electricity. In view of the many recent developments in the applications of Electricity to the wants of civilized life, and the novel uses for which it is now found available, Electrical Engineering is becoming a distinct profession; and as already stated in reference to the Department of Engineering, pupils are now entering the school, and applying for special training in this branch.

The provision of adequate electrical instruments of most recent design, for the purpose of instruction, can therefore no longer be delayed without impairing the efficiency of the school, and forcing Canadians to seek the requisite training in foreign countries. An appeal has accordingly been made to the graduates of the University of Toronto, and to the alumni and friends of University College and the School of Science, for funds to complete the philosophical apparatus in University College, and available for this school. Thus far the response has been gratifying. A conditional promise of aid has been received from the Board of Trustees of the University: this Board would strongly urge the Government to supplement it by an appropriation; and with such encouragement it will be justified in the belief that the philosophical apparatus available for the students of the School and College will speedily be placed on a basis alike satisfactory and creditable to both institutions.

The Elementary Laboratory, which was mentioned in last report, as then opened, has afforded valuable facilities for the students to carry on useful practical work in Physics and Engineering.

Two additional rooms for special experiments in Heat and Sound have since been fitted up, and furnished with efficient appliances for practical instruction.

The Optical room which was reported as in progress, has been completed during the past year, and is now in use by the students engaged in this important branch of study.

(3) *Chemistry*—

In accordance with the recommendation of the Board, an additional practical Laboratory has been fitted up, and placed at the disposal of Professor Pike; and the upper Laboratory set apart for the exclusive use of Professor Ellis, in carrying on the work of his department, and the practical instruction of his pupils in the school, as Professor of Applied Chemistry.

The following is a report of the work done in this department:

1. Lectures have been given to the Engineering Students in the second and third years, on the subjects laid down in the Curriculum, viz., the Chemistry of Fuel and Combustion, Explosives, Building Materials, and the Metallurgy of Iron.
2. A course of Evening Lectures on Chemistry was given last winter, the attendance on which was almost exclusively by students of the Ontario Veterinary College.
3. Instruction has been given in the Laboratory to the students pursuing the regular course of the school, and also to medical and other special students.

In the past session there were sixty-six students working in the Laboratory, classified as follows:—

Engineering students.....	23
Medical ".....	43
Total.....	66

This session there are seventy-six students classified as follows:—

Engineering students.....	28
Medical ".....	43
Special ".....	5
Total.....	76

Of the special students, one is pursuing the course for the diploma in Analytical and Applied Chemistry; two are studying to fit themselves for employment as Electricians; and two are special students in Chemistry.

Attention has already been called to the great development of Electrical Science during recent years, and any deficiency in the appliances requisite for giving adequate instruction in this important branch of study, affects the department of Chemistry, as well as other departments already referred to. During the past session, a free course of lectures on Electricity was given by Mr. Babbington, the private assistant of Professor Ellis, with an average attendance of thirty.

(4) *Biology*—

In this department, in addition to the instruction adapted to the requirements of the University for the Degree in Arts, special lectures and practical courses have hitherto been arranged for Medical students; but, in consequence of suggestions from the Vice-Chancellor of the University, representing that the Medical Schools provide this branch of teaching for their students, these lectures have in the meantime been discontinued. But the fact that, notwithstanding the distance of the School of Science from the Hospital and Medical Schools, they attracted a class of thirty-eight students, is abundant evidence of the value attached to them.

(5) *Mineralogy and Geology*—

Professor Chapman is now assisted in the practical instruction in this department by Mr. H. R. Wood, B.A., as Tutorial Fellow. The instruction includes practical teaching in the determination of minerals, the use of the blow-pipe and assaying.

In addition to the courses of lectures on Mining and General Geology, and the training of the students of the School and College in the practical work of this department, the Professor's services are frequently called into requisition to determine the character of minerals, and the value of ores, and other products of economic interest. A large number of mineral samples have been examined free of charge, for explorers, farmers and others; and much information has been given by letter, or personally, to numerous applicants from various parts of the Province.

(6) *Ethnology*—

This department forms a part of the honor work in the requirements for a degree in the Faculty of Arts, and the lectures are available for the students of the School of Science. The lectures embrace Physical and Philological Ethnology. The former includes Anthropology, the physical distinctions of ancient and modern races, and the influence of the Ethnical Element in History. Under the second head is included Comparative Philology, and the Science of Language.

Archaeological and Anatomical collections, including both skulls and casts of typical races, are in course of formation, and already suffice to illustrate the general system of classification of ancient and modern races, in so far as it is based on physiological evidence.

6. In concluding the report, the Board begs leave to state that, while the equipment of the School of Practical Science is still far short of what is desirable in order to adequately fit it for the accomplishment of all that is aimed at, in view of the demand for practical scientific training in this Province, and throughout the Dominion; nevertheless, with all the advantages now derived from the co-operation of the instructors in the Department of Science of University College with those of this Institution, it is well equipped in some of its most important departments, and is able to offer to its students facilities of great practical value. The enlarged accommodation now secured for the department of Chemistry, by the much needed addition of a second practical Laboratory, is calculated to add greatly to its efficiency, and the appointment of a Fellow in the Department of Engineering, the necessity of which has been more than once urged on the attention of the Government, will enable work to be more thoroughly carried out in some important branches than is now possible.

The arrangements by which the services of the Professors, Tutors and Fellows of University College in the departments of Mathematics and Physics, of Chemistry, Biology, and Mineralogy and Geology, are made available for the students of the school, have largely added to its efficiency: with their aid, in co-operation with the Professors of the School of Science, it is now successfully accomplishing the special work for which it was instituted.

The Board begs leave to call the attention of the Government to the very defective character of the heating apparatus provided for the building, and to the report of Mr. Kivas Tully, the Architect of the Board of Works, as to the necessity for its replacement by some more adequate system of heating. The destruction of glass apparatus especially, in the Chemical Laboratories, at the annually recurring periods of very low temperature, is a constant source of wasteful expense, and in case of the prolonged continuance of unusually low temperatures during the present winter, may even necessitate the closing of the Chemical Laboratories, to prevent the injury and waste occasioned not only by the destruction of bottles, with their chemical contents, but also by the bursting of water-pipes, so as to effectually put a stop to all practical work.

In conclusion the Board desires to draw the attention of the Government to the necessity for a night watchman. The apparatus in the departments of Engineering, Chemistry and Mineralogy, is now of great value, and much of it such as could readily be disposed of. During the present session the building has been broken into, and valuable platinum apparatus stolen from the Chemical Laboratory; in addition to injury done to the building.

A synopsis of lectures and other details relative to the work of the school will be found in the Prospectus for the past year, of which a copy is herewith appended.

All which is respectfully reported,

DANIEL WILSON,

Chairman.

TORONTO, December 9th, 1884.

4. ANNUAL REPORT OF UPPER CANADA COLLEGE.

To His Honor the Honorable John Beverley Robinson, Lieutenant-Governor of the Province of Ontario, and Visitor of Upper Canada College.

MAY IT PLEASE YOUR HONOR:—

The Principal of Upper Canada College begs leave to present to your Honor, as Visitor on behalf of the Crown, the following report:—

Number of pupils during the year ending June 30th.—1883, 243; 1884, 255.

Number of resident pupils: 1883, 116; 1884, 129.

Analysis of attendance during the year ending June 30th, 1884:—

Residence of Pupils, Parents or Guardians.	Day Pupils.	Resident Pupils.
Algoma	1
Bruce	3
Carleton	2
Dufferin	1	....
Elgin	1
Grey	2
Haldimand	3
Halton	3
Hastings	3
Huron	6
Kent	1
Lambton	8
Lanark	1
Lincoln	2
Middlesex	1
Muskoka	2
Nipissing	2
Norfolk	1
Northumberland and Durham	5

Ontario.....	1	1
Peel	1	3
Perth	1	4
Peterborough	1	2
Simcoe	7	
Stormont, Dundas and Glengarry.....	3	
Victoria	4	
Waterloo	3	
Welland	1	
Wellington	4	
Wentworth	21	
York	122	12
Quebec	4	
Nova Scotia	6	
West Indies	1	
United States	6	
Total.....	126	129

The following constitute the staff for the year 1884-5 :—

JOHN MILNE BUCHAN, M.A., Principal.

WILLIAM WEDD, M.A., First Classical Master.

JAMES BROWN, M.A., First Mathematical Master.

JOHN MARTLAND, M.A., Second Classical Master, and Resident Master in College Boarding House.

W. H. FRASER, B.A., French and German Master.

GEORGE B. SPARLING, M.A., Assistant Mathematical Master, and Assistant Master in College Boarding House.

WILLIAM JACKSON, Esq., Assistant English Master, and Master in Supplementary Boarding House.

A. Y. SCOTT, B.A., Assistant English Master, Lecturer in Chemistry, and Resident Assistant Master in College Boarding House.

G. GORDON, B.A., Assistant English Master, and Resident Assistant Master in College Boarding House.

H. BROCK, Esq., Junior Assistant English Master, and Master in Supplementary Boarding House.

A. STEVENSON, B.A., Writing Master.

SERGEANT PARR, Instructor in Gymnastics, Fencing, and Drill, and Overseer of Playground.

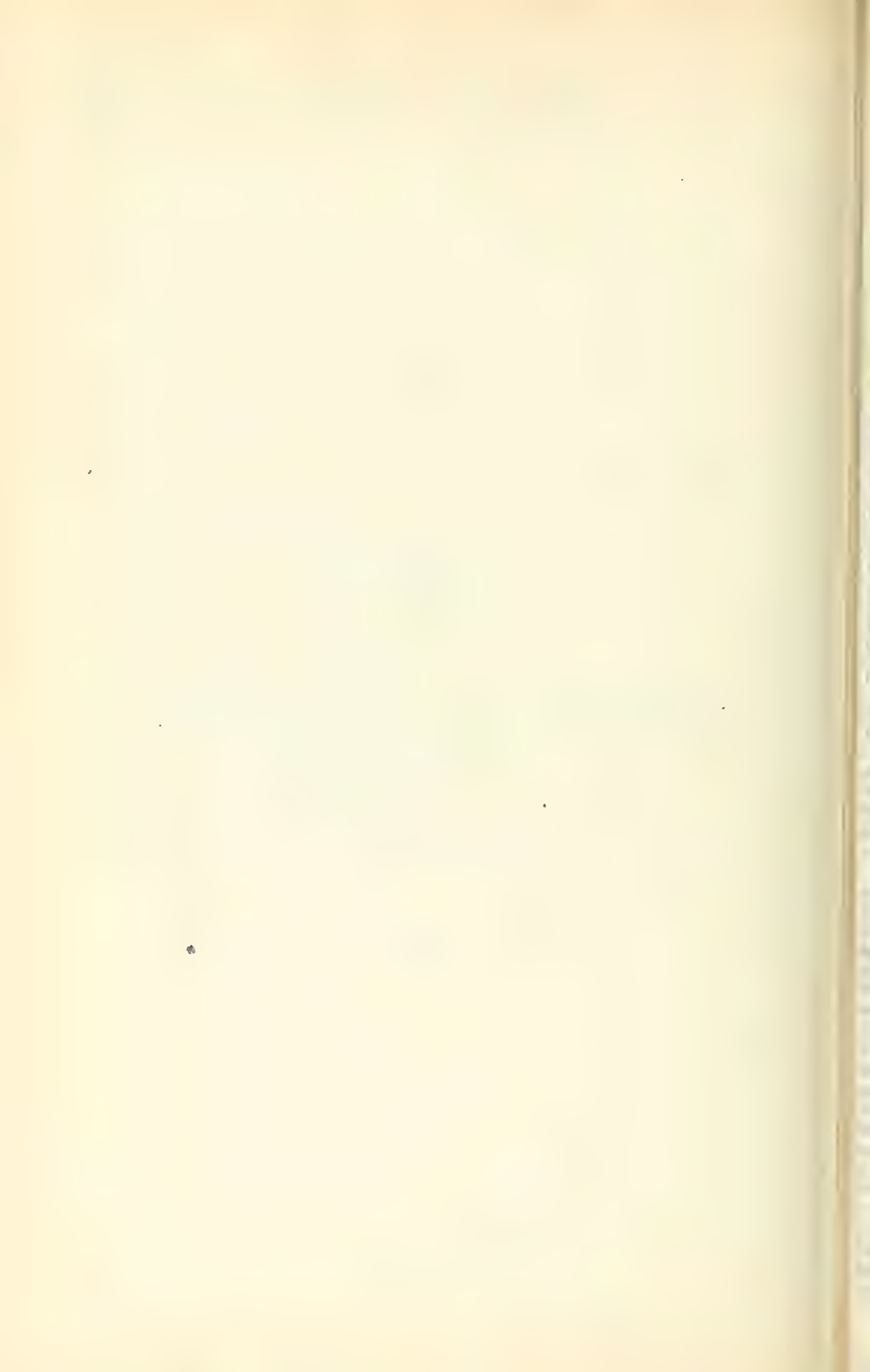
J. M. BUCHAN, M.A.,
Principal.

UPPER CANADA COLLEGE,
15th December, 1884.

PART IV.

TECHNICAL EDUCATION

AND SCIENTIFIC SOCIETIES.



PART IV.

TECHNICAL EDUCATION AND SCIENTIFIC SOCIETIES.

1. MECHANICS' INSTITUTES.

Technical education for the working classes is the application of science to industrial purposes, and it should be the chief aim of Mechanics' Institutes to aid mechanics in becoming acquainted with the branches of science which are of practical application to their various trades. The Mechanics' Institutes are also intended to provide educational advantages for our youth after they leave school; when they assume the duties and responsibilities of providing for themselves. As a rule, young men have considerable spare time, that may be advantageously used for acquiring those branches of knowledge which have been imperfectly learned or wholly neglected at school; or, to make further progress in studies commenced at school.

By the Act of 45 V, c. 5 s. 2, the Education Department was empowered, subject to the approval of Your Honor in Council, to make rules and regulations "for the instruction in physical and practical science, to be given in evening classes in Mechanics' Institutes, and for the apportionment of sums of money out of any grants to be made by the Legislature for the purpose of such classes." It devolves therefore upon me to show how far this scheme for promoting the welfare and advancement of the working classes has been carried out: for this purpose I will briefly refer to the establishment and trace the progress of Mechanics' Institutes in this Province.

The first Mechanics' Institutes in the Province aided by Government, were established in Toronto and Kingston in 1835, for the purpose of organizing a system of instruction by means of lectures to classes, and for the purchase of philosophical instruments.

In 1849 the Hamilton and Gore Mechanics' Institute was incorporated for diffusing scientific and literary knowledge, by the formation of a museum and by lectures on scientific subjects. In 1851 an Act was passed for the incorporation of Mechanics' Institutes: this Act is still in use with certain amendments. The Legislative Grant to Mechanics' Institutes in this Province from 1851 to 1856 varied in amount from \$800 to \$12,400 per annum.

In 1857 the Board of Arts and Manufactures was incorporated, to assist the Mechanics' Institutes, and "to promote the development of mechanical talent among the people of this Province, by disseminating instruction in Mechanics and kindred sciences, and by affording increased facilities for the study of models and apparatus." It was also the duty of the Board to establish museums with special reference to the mechanical arts and manufactures, and to employ competent persons to lecture on these subjects. The Legislative Grant for 1857 to Mechanics' Institutes in Upper and Lower Canada was \$36,500, but up to this time there was no inspection of the Institutes and no returns seem to have been made to the Government. for I find in this year a circular was issued by the Minister of Agriculture for information as to membership, library, reading room, evening classes, lectures and finances; but only forty-nine Institutes in this Province replied to this circular, and there are no returns showing that evening classes had been established up to this date. It is evident, therefore, that the Institutes were nothing more than circulating libraries, and there is no doubt that the Government was discouraged in its efforts to provide education for the working classes, for it is noticeable that in the following year the grant to each Institute was reduced from \$200 to \$140, and after that the grant was withdrawn altogether for several years.

In 1868, immediately after the confederation of the Provinces, the Mechanics' Institutes were placed under the supervision of the Commissioner of Agriculture and Public Works, and a clause in the Agriculture and Arts Act was assented to, that "any Mechanics' Institute having evening classes organized for the imparting of practical instruction to its pupils, or having established a library of books on mechanics, engineering,

or chemical, or other manufactures, shall be entitled to receive from unappropriated moneys in the hands of the Treasurer of the Province, for the purpose of aiding in such class instruction, or technical library, or both, a sum not to exceed two hundred dollars in any one year; provided that an equal sum was raised from local contributions."

In the same year, 1868, the Board of Arts and Manufactures was abolished and the Mechanics' Institute Association of Ontario was incorporated. The Association frequently urged upon the Directors of Mechanics' Institutes the importance of organizing evening classes for instruction, in those branches of study likely to be of most use to their operative members; believing that such means of improvement are among the most important of the several subjects contemplated by Mechanics' Institutes. After several unsuccessful appeals, the Association determined in 1873 to offer prizes of the value of \$10, \$6, and \$4, respectively, to any Mechanics' Institute establishing evening classes with an average attendance of not less than twelve persons, and not less than twenty-seven lessons; but notwithstanding this liberal offer, in only a small proportion of the Institutes were evening classes established.

In 1869 twenty-six Institutes received Government aid and conducted three evening classes.

1870 twenty-four	"	"	"	nine	"
1871 forty-three	"	"	"	six	"
1872 forty-one	"	"	"	eleven	"
1873 thirty-nine	"	"	"	fourteen	"
1874 forty-seven	"	"	"	sixteen	"
1875 fifty-four	"	"	"	twenty three	"
1876 fifty-one	"	"	"	twenty-four	"

In 1877 the Legislative grant was increased from \$200 to \$400 to each Institute, and only \$200 had to be raised from local subscriptions: this does not seem to have had much effect in stimulating the establishment of evening classes.

In 1877 fifty-eight Institutes received Gov. aid and conducted twenty-four evening classes.

1878 fifty-nine	"	"	"	twenty-four	"
1879 seventy-four	"	"	"	nineteen	"

In 1880 the supervision of Mechanics' Institutes was transferred from the Commissioner of Agriculture to the Minister of Education.

In 1880 seventy-five Institutes received Gov. aid and conducted twenty-six evening classes.

1881 seventy-nine	"	"	"	thirty-seven	"
1882 ninety-three	"	"	"	twenty-seven	"
1883 one hundred and eight	"	"	"	thirty	"

From these statistics it will be seen that the objects of the Government have never been fully carried out. In the year previous to the supervision by this Department, although seventy-four Institutes received aid from the Legislature, only nineteen Institutes conducted evening classes; it is evident, therefore, that many of the Institutes were mere circulating libraries, and others were only libraries and reading rooms.

On further investigation I found that a large proportion of Institutes which had received grants, were either temporarily closed or altogether defunct: nearly \$20,000 had been granted at different periods to these Institutes, and property representing nearly \$30,000 should have been accounted for, or, at any rate, whatever was remaining should be made of public benefit to the Province. Not being satisfied with this state of things, I directed Dr. S. P. May, Superintendent of Mechanics' Institutes, to visit the different towns and villages where these Institutes had been established, to meet the former directors, and any prominent persons interested in the educational welfare of the people. I also gave him instructions to visit the new Institutes applying for grants, and to explain to them the regulations of the department; because it happened that new directors, not thoroughly understanding the meaning of the Act, would frequently ask for the full sum of four hundred dollars, when they had not sufficient money from local sources to meet the required fifty per cent.; and consequently such Institute, not having complied with the requirements of the Act, would soon suspend operations. I also directed Dr. May to give special attention to the importance of evening classes. The success which followed these visits

can be seen in the superintendent's report: some Institutes which had been closed for several years are now resuscitated; and out of nearly forty Institutes visited, the majority are now conducting evening classes. During the present winter no less than sixty-four evening classes will be conducted in the Mechanics' Institutes of this Province.

There is no doubt that this will prove of great benefit to all classes of our community. It is now a well-established fact that the national character and commercial prosperity of a country may be advanced and promoted by thoroughly trained mechanics. The wealth and influence of competing nations are dependent on the scientific and technical education of the people, which not only enables the artisans to get through their work with more rapidity and better finish, but also effects a saving of material; therefore, the nation which cultivates the intelligence of its people will always command the highest prices for its goods.

We cannot ignore the importance of this. Every country which encourages public education in arts and science becomes more wealthy. In this Province our manufactures have not advanced in proportion to the public tastes; and notwithstanding that many of our principal manufacturers employ skilled labour from abroad, we still have to make large importations. In purchasing a manufactured article, it is now a question of taste as well as of the quality of the material, and goods which are the most beautiful in design and durable will have the preference: thus, some manufactures are unprofitable, and some manufacturers, from a lack of skill in design, do not prosper, whilst their skilled rivals are successful.

The following list of manufactures, prepared from the Dominion Trade and Navigation Report for the fiscal year, ending 30th June, 1883, shows the large amount of goods requiring skilled labor which could be manufactured in this country.

Dutiable Goods.

	<i>Value.</i>
Bagatelle tables.....	\$428
Bells.....	856
Billiard tables.....	13,700
Bird cages.....	4,549
Books printed, including bibles, etc.....	846,184
Blank books.....	87,205
Printed billheads, etc., quires, etc.....	143,280
Advertising posters, bills, pamphlets, etc.....	45,338
Maps and charts.....	17,082
Printed music, bound or in sheets.....	68,739
Valentines, Christmas and New Year's cards.....	125,330
Books binders' tools and implements.....	29,371
Braces and suspenders, belts and trusses.....	138,404
Brass, and manufactures of.....	387,278
Brick and tiles.....	170,687
Brooms of all kinds.....	4,935
Brushes of all kinds.....	112,562
Buttons of all kinds.....	443,402
Candles.....	49,243
Carriages, and parts of.....	1,173,036
Carpets not elsewhere specified.....	176,332
Cases, jewel and watch cases.....	1,405
Clocks and parts thereof, except springs.....	136,382
Clocksprings.....	2,053
Collars, cuffs, and shirt fronts of paper, linen, or cotton.....	94,547
Combs for dress and toilet, of all kinds.....	85,592
Copper and manufactures of.....	223,267
Cordage of all kinds.....	182,609
Cotton, manufactures of.....	9,957,979
Crapes of all kinds.....	197,955

Crucibles	\$7,739
Drugs, dyes, chemicals and medicines.....	1,035,058
Earthenware and china.....	675,000
Electric and galvanic batteries.....	11,679
Electric lights, apparatus for.....	31,253
Embroideries.....	84,998
Emery-wheels.....	9,566
Enamelled cotton, muslin or duck, etc.....	2,752
Fancy goods, including fans, artificial flowers, etc.....	462,474
Laces, braids, fringes, and other trimmings	1,306,826
Millinery	15,573
Toys, wooden and other.....	145,782
Felt for roofing.....	43,518
Fireworks	10,086
Flax, manufactures of.....	1,432,494
Fur caps, muffs, etc.....	160,117
Glass, and manufactures of.....	1,196,083
Gloves and mitts.....	340,285
Gold and silver, manufacture of.....	340,962
Gunpowder and other explosives.....	175,364
Gutta-percha and india-rubber, manufactures of.....	671,059
Hair, and manufactures of.....	74,001
Hats, caps, and bonnets.....	819,518
Ink, writing, and printing.....	72,670
Iron, and manufactures of	12,267,236
Steel, manufactures of.....	1,496,265
Ivory, manufactures of.....	5,841
Jet, manufactures of.....	27,450
Jewellery	662,648
Lead, and manufactures of.....	205,454
Leather, and manufactures of.....	2,020,669
Machine card clothing.....	25,594
Marble, and manufactures of.....	125,576
Metal, and manufactures of.....	402,929
Plumbago, manufactures of.....	2,141
Musical instruments.....	485,572
Oils, including linseed, lard, and petroleum.....	1,002,072
Oilcloth	293,487
Paintings, drawings, engravings, and prints	87,840
Paints and colors.....	553,715
Papers, and manufactures of, not elsewhere specified.....	1,294,768
Pencils, lead, in wood or otherwise.....	44,290
Perfumery	23,458
Plates engraved	338
Printing presses of all kinds	138,221
Ribbons.....	9,640
Sails, tents and awnings	32,796
Sand paper, emery cloth, etc	21,289
Ships and other vessels.....	29,669
Silk, and manufactures of	2,909,618
Slate mantels.....	2,215
School and writing slates, porcelain, drawing, etc.....	11,910
Soap	80,635
Stationery of all kinds, not elsewhere specified.....	104,169
Stone, and manufactures of, including grindstones.....	77,379
Straw, manufactures of.....	18,807
Telephones.....	10,360

Telegraphic instruments.....	24,640
Tin, and manufactures of.....	232,392
Tobacco, and manufactures of, including cigars, snuff, etc.....	408,451
Tobacco pipes.....	184,418
Trunks, satchels, pocket books, etc.....	58,261
Twines of all kinds.....	91,529
Varnish and lacquers.....	119,489
Watches and watch cases.....	382,799
Watch actions or movements.....	165,991
Wax, and manufactures of.....	27,396
Whips.....	36,295
Wood, and manufactures of.....	1,661,020
Wool, manufactures of.....	10,135,168
Zinc, manufactures of.....	22,338

Free Goods.

Ashes, pot, pearl, and soda.....	4,189
Bells for churches.....	27,772
Bent glass for manufacture of show cases.....	1,884
Bolting cloth.....	3,440
Books printed more than seven years.....	5,369
Canvas for manufactures.....	14,676
Chronometers.....	1,291
Communion plate.....	18,209
Drugs, dyes, chemicals, and medicines.....	905,343
Duck for belting and hose.....	16,125
Felt, adhesive, for sheathing vessels.....	5,508
Fish hooks, nets, lines, twines, etc.....	473,104
Metals, including sheet iron manufactures for ships, copper in sheets, steel, etc.....	3,976,932
Philosophical instruments.....	14,831
Pitch and tar (pine).....	22,047
Plaits, straw.....	28,222
Articles for the use of the Governor-General.....	12,192
Articles for the use of Foreign Consuls-General.....	6,061
Articles for the use of the Dominion Government.....	367,848
Articles for the use of the Army, Navy and Canadian militia....	99,084
Medals of gold, silver or copper.....	6,600
Articles for construction of Canadian Pacific Railway.....	2,006,471

The total amount of imports for the year ending 30th June,
1883, was \$132,254,022

The total amount of exports for the year ending 30th June,
1883, was \$98,085,804

These statistics are within the comprehension of every person. The capitalist, manufacturer, agriculturist, and workman can see that we are expending large sums of money in Europe and the United States, because these countries manufacture goods with better taste, or, in other words, that they have more skilled mechanics than we have. It must also be remembered, that in addition to the increased employment of thousands of persons, there is an influence produced by the general education of the people which adds to their culture, refinement, self respect and moral power, and contributes to the civilization and prosperity of our Dominion.

2. REPORT OF DR. S. P. MAY, SUPERINTENDENT OF MECHANICS' INSTITUTES.

SIR,—I have the honor to submit herewith my report on the Mechanics' Institutes and Free Libraries of Ontario.

The report of this year includes the transactions of the Mechanics' Institutes and Free Libraries in operation throughout the Province, for the year ending May 1st, 1884; also, the results of my visits made under year instructions, to those Institutes which were closed, or temporarily closed, and new Institutes applying for Legislative aid; together with remarks and suggestions for your kind consideration.

The following abstracts are taken from the Mechanics' Institutes and Free Libraries' Reports for the year. For details see Tables A. B. C.

1.—*Institutes Reporting, 1883-4.*

One hundred and eight Institutes reported this year.

It is to be regretted that the Directors of all the Institutes do not make regular returns to the Department. Some Directors seem to think it is not necessary to report, unless the Institutes over which they preside have qualified for the new grant, and others do not report, even for the year in which they receive the grant. This is a mistake; inasmuch as representing public institutions, they should send in their Annual Report as soon as convenient after the Annual Meeting on the 1st of May. It would greatly facilitate the work of the Department if the Directors would forward returns for every year.

2.—*Institutes not Reporting, 1883-4.*

Twenty-five Institutes did not report for this year.

This number includes the Institutes which have been re-organized since 1st May.

3.—*Classification of Institutes Reporting, 1883-4.*

Twenty-eight Institutes have Libraries, Reading Rooms and Evening Classes; forty-two Institutes have Libraries and Reading Rooms; two Institutes have Libraries and Evening Classes; thirty-six Institutes have Libraries only.

4.—*Receipts during the year 1883-4.*

104	Institutes received from Members.....	\$13,636	87
84	“ “ “ Legislative Grants.....	23,258	00
46	“ “ “ Municipal Grants.....	8,689	48
25	“ “ “ Evening Classes.....	1,557	07
24	“ “ “ Scientific Lectures.....	741	92
55	“ “ “ General Lectures & Entertainments	4,288	87

The total receipts from all sources, including balances from previous year, of 108 Institutes reporting, was. \$92,856 33

This includes the sum of \$50,000 belonging to the Toronto Free Library.

Fees from Members.—The fees charged for membership vary from 25c. to \$2.00 per annum. The usual fee is \$1.00 per annum.

Legislative Grant.—Three Institutes which received grants have not reported for this year.

Municipal Grant.—Some municipalities are very liberal in their annual grants to Institutes, others do not render any assistance towards their support, although it is acknowledged that they are a power for good, and indirectly a source of profit to property owners, by educating the working classes, and improving the morals of the young. It

would be perhaps asking too much for the Legislature to compel municipalities to aid in supporting the Mechanics' Institutes in the more remote localities; but a step in the right direction would be for the Legislature to recommend and empower municipalities to expend money for this purpose. In my interviews with municipal officers in different localities, I have invariably found that personally they are in favour of assisting the Institutes, and many of them have expressed a wish that there was a clause inserted in the Act compelling them to do so.

Evening Classes.—Thirty Institutes had classes in Elementary and Technical subjects during the session.

Scientific Lectures.—During this year the Mechanics' Institute Association paid from its funds \$20 per lecture, and \$15 for expenses, was allowed to be paid from the Government Grant, provided that the lecture was free to the public. Scientific lectures are valuable in inducing a taste for the different branches of science; if illustrated by experiments, a large audience can be entertained and instructed, and it is seldom that there are not some persons present desirous of enlarging their range of knowledge in this direction; and the result is that such lectures are a powerful auxiliary toward the formation of Science Classes. These lectures would be more general if the Institutes could supply Diagrams, Apparatus, etc., for the use of the lecturer. I have frequently found professional and other gentlemen willing to lecture for their Institutes if they could be provided with apparatus, etc. It is well worthy of your consideration whether some assistance could not be given in this direction.

In England the Binary system of science lectures is very popular—a course is prepared on Physics, Chemistry, etc.: these are either written, or printed, and sent with the necessary apparatus, to small towns and villages where scientific lecturers cannot be easily obtained. The *modus operandi* is for one person to read and another to perform the experiments: the reason for this being that a lecturer cannot deliver a written lecture satisfactorily if he has to go to and fro between his text and the diagrams, etc. The manuscript is marked where an experiment is to be made, and the demonstrator having his “instructions,” performs it at the right time. Examinations are conducted in connection with these readings, which not only test the knowledge of the persons attending, but point out the localities in which Science classes would be most likely to succeed.

General Lectures.—The Association of Mechanics' Institutes offered the sum of \$10 for one general lecture to each Institute, and expenses not exceeding \$8 were allowed to be paid from the Government Grant.

5.—Expenditure during the year 1883-4.

74	Institutes expended for Rent	\$ 4,735 73
80	“ “ “ Light and heating.....	3,656 00
82	“ “ “ Salaries	8,788 94
96	“ “ “ Books (general).....	29,482 43
64	“ “ “ Books (fiction)	3,193 91
70	“ “ “ Magazines, newspapers, etc.	5,437 48
*32	“ “ “ Evening Classes....	3,821 27
33	“ “ “ Scientific Lectures	1,327 56
34	“ “ “ General lectures & entertainments	2,163 39

6.—Donations of Books, etc., 1883-4.

14 Institutes received donations of books, etc., value..... \$445 65

7.—Assets and Liabilities in 1883-4.

116	Institutes and Public Libraries have Assets, value	\$331,992 77
47	“ Liabilities amounting to	100,434 30

* This includes amounts paid by two Institutes for previous year.

8.—*Institutes qualifying for the Grant after 1st May, 1884.*

Aylmer expended.....	\$ 69 26	Niagara expended.....	\$ 43 00
Barrie ".....	37 83	Norwood ".....	68 37
Belleville ".....	133 60	Orillia ".....	104 18
Clinton ".....	38 84	Parkdale ".....	139 08
Chatham ".....	72 62	Peterboro' ".....	60 17
Dundas ".....	1 13	Point Edward ".....	37 31
Embro ".....	127 50	Ridgetown ".....	204 42
Forest ".....	139 00	Smiths' Falls ".....	86 22
Grimsby ".....	20 38	Stratford ".....	147 67
Hanover ".....	165 63	Strathroy ".....	40 80
Harriston ".....	86 69	Thorndale ".....	60 00
Ingersoll ".....	100 00	Uxbridge ".....	16 24
Lindsay ".....	190 30	Walkerton ".....	37 47
London ".....	235 27	Welland ".....	135 51
Markham ".....	65 51	Woodstock ".....	50 99
Newmarket ".....	65 47		
Niagara Falls ".....	10 00		

These sums were expended after 1st May, in order to qualify for the grant, and are to be deducted from the Reports of 1884-5, as belonging to the year 1883-4.

9.—*Books in Libraries and Volumes Issued.*

These returns (Table B.) are very incomplete: some Institutes not keeping any record of classifications of Books issued, and some do not even classify the Books in their Libraries. This will be remedied next year, as Inspectors have been notified that after the 1st May, 1884, the rule requiring classified returns of Books in Libraries, and the books issued during each year, will be strictly enforced.

Table C. shows the number of volumes of Fiction in each Library, and the number of volumes issued. The proportion of fiction is altogether too large: Mechanics' Institutes should not be mere circulating libraries for light reading: as when they were first incorporated it was not contemplated that any other than scientific and technical books should be paid for out of the grant.

The allowance for the proportion of fiction is a departmental rule, which was made to foster these Institutions by encouraging a taste for reading, in introducing a few of the standard novels approved of by the Department. If this privilege be continued, the Inspectors should examine the books, in order to prevent the di-semination of shallow and sensational literature, inimical to morality, and which seems a growing characteristic of many of the chief novels of the present age.

In my special report on Mechanics' Institutes in 1880, I suggested as a preventive to the overgrowth of Libraries in this direction, that only \$200 be allowed to each institute for its Library and Reading Room, and the balance to be applied to practical instruction: my experience of the past four years induces me to strongly recommend this division of the grant, except to cities and towns. I find that Directors of many of the older institutes are frequently at a loss to know how they can expend their funds for books to the best advantage: they only actually require to purchase a few modern works on science and history to keep pace with the times, and the balance of their money is expended for books, either in light literature or on subjects already largely represented on their shelves.

10.—*Reading Rooms in 1883-4.*

70 Institutes had Reading Rooms with 1030 periodicals and 667 newspapers.

As a rule, Reading Rooms in small institutes are not financially successful; the expenses are too great in proportion to the small number of members who patronize them. (See remarks on Reading Rooms in "Results of personal visits.")

11. *Evening Classes in 1883.***Thirty Institutes conducted Evening Classes during the year.**

No less than twenty-three of these institutes had Classes in elementary subjects, and although there were thirteen institutes with Drawing classes, there was only one class in Physics and three classes in Chemistry. There is no doubt that there are many adult members of Mechanics' Institutes whose early education was neglected, who gladly avail themselves of this opportunity of acquiring a knowledge of writing, arithmetic and book-keeping; but it is a question worthy of consideration whether it is not the duty of Public School Boards to organize night classes for teaching elementary subjects wherever there is a demand; this has been done in Toronto with great success.

The grant for Mechanics' Institutes should be applied to supplying technical education for the working classes, which really means instruction in the various branches of industry: there are, however, rural districts where it may be beneficial for Directors of Mechanics' Institutes to establish classes in elementary subjects, and I do not wish to detract from the good work they are accomplishing, but rather to direct more attention to the study of science.

Your encouragement of Drawing Classes will do much to prevent Elementary Classes being started in new places: and as drawing is really the stepping stone to the study of science, I do hope ere long that you will be able to hold out the same inducements for conducting Science Classes, as you have already so liberally done for Drawing Classes. In older countries great attention is given to providing Science Classes for mechanics. I will therefore give a short sketch showing what is being done in that direction.

Science Schools in England.

In 1853, soon after the first Universal Exhibition, in the speech from the Throne, Her Majesty stated, that "the advancement of the Fine Arts and Practical Science will be readily recognized by you as worthy the attention of a great and enlightened nation. I have directed that a comprehensive scheme shall be laid before you, having in view the promotion of these objects, towards which I invite your aid and co-operation." This scheme, dated 15th March, 1853, provided for the establishment of local institutions for teaching Practical Science, the same having already been done for teaching drawing and modelling.

The Science and Art Department was then created; it was under the control of the Board of Trade until 1856, when its management was transferred to the Education Department. From 1853 to 1858, experimental science schools were maintained in different localities, but the general system for establishing science classes throughout the whole country, was not adopted until 1859.

The first examination of Teachers of Science was held in this year, and a number of new schools and classes were formed, so that in May, 1861, at the first general and simultaneous examination of classes, there were thirty eight classes with 1,330 pupils.

The progress since that date will be seen from the following three decennial periods:

1862.....	70 schools with	2,543 students in	140 classes.
1872.....	948 " "	36,782 " "	2,803 " "
1882.....	1,403 " "	65,581 " "	4,881 " "

The following year still shows an increase:

1883.....	1,421 schools with	75,054 students in	5,281 classes.
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In 1883, examinations were held in 1,032 Provincial centres, and 102 Metropolitan centres; 47,882 students from Science Schools came up for examination; also, 7,290 students from other schools: 79,551 papers were examined, and 52,651 papers were passed. The payments on results of instruction amounted to £45,223 9s. 1d.: payments were made to 1,998 teachers, the average payment per teacher being £22 12s. 8d. The teacher must have given at least twenty-eight lessons, and each student must have received not less than twenty lessons.

Scholarships and Prizes.

In 1858, Sir Joseph Whitworth founded scholarships of the total value of £3,000 a year, and vested them in the Minister of Public Instruction, for the purpose of promoting mechanical industry, by aiding young men in acquiring proficiency in Engineering. In the first year, sixty exhibitions of £25 were given.

These scholarships were then increased, ranging from £25 to £200, and it was possible for the same scholar to receive during his tenure of the scholarship, a total amount not exceeding £800.

By the regulations of 1880, still in force, twenty five scholarships ranging from £100 to £200 are open for competition. Aid is given for the creation of scholarships in connection with elementary schools, ranging from £5 to £10. One scholarship is allowed for every 100 pupils in the school. Aid is also given to enable students to complete their education at some institution where scientific instruction of an advanced character may be obtained; grants of £25 per annum for three years being made for this purpose.

There are royal exhibitions of the value of £50 per annum, tenable for three years, at the Normal School of Science, and Royal School of Mines, London, or at the Royal College of Science, Dublin. National scholarships are also given entitling the holder to free instruction, and a maintenance allowance of £1 10s. 0d. per week for forty weeks in the year.

By the establishment of these Science Schools for the education of mechanics, England has retained her pre-eminence in the various manufactures. The supreme skill and intelligence of the workmen, with their new adaptations and improvements, promoting the subdivision of labour and the use of machinery, have more than repaid the country for its enormous outlay in this direction. This is distinctly shown in a recent report on Technical Instruction in England. The Royal Commissioners say, "Great as has been the progress of foreign countries, and keen as is their rivalry with us in many important branches, we have no hesitation in stating our conviction, which we believe to be shared by continental manufacturers themselves, that, taking the state of the arts and manufactures as a whole, our people still maintain their position at the head of the industrial world. Not only has nearly every important machine, and process employed in manufacturing, been either invented or perfected in this country in the past, but it is not too much to say, that most of the prominent new industrial departures of modern times are due to the inventive powers and practical skill of our countrymen. Machinery made in this country is more extensively exported than at any former period. The best machines constructed abroad, are, in the main, made with slight, if any, modifications, after English models. A large proportion of the power looms exhibited and used in the continental weaving schools, has been imported from this country. In the manufacture of iron and steel we stand pre-eminent, and we are practically the naval architects of the world."

Foreign Schools of Science.

Nearly every continental state has technical schools for training workmen: with the exception of the proceeds from a small fee charged to the students, these schools are maintained at the expense of the several states. As it would take up too much space even to enumerate all the schools, I shall show their influence and the estimation in which they are held by British experts, by giving a brief extract from the report of the Royal Commissioners already referred to, who say, "Your commissioners believe that the success which has attended the foundation of manufacturing establishments, engineering shops and other works on the continent, could not have been achieved to its full extent in the face of many retarding influences, had it not been for the system of high technical instruction in their schools; for the facilities for carrying on original scientific investigation; and for the general appreciation of the value of that instruction, and of original research which is felt in those countries."

Technical Education in the United States.

There is probably no nation on earth more keenly alive to the necessity of providing practical scientific instruction for the working-classes than the republic of the United

States, and fortunately for the rising generation, its importance was foreseen by the former legislators of that country, who by a sagacious scheme of statesmanship secured, for the endowment of superior and technical education, large sections of land in some of the now most flourishing states, when they were only prospective territories.

In a recent report on Industrial Education in the United States, I find that the amount derived from the sale of United States land or scrip, by thirty-six Agricultural Colleges and Scientific Schools, is \$7,500,000. A large number of the Colleges of the Agricultural and Mechanic Arts derive their income chiefly from the land grant of 1862, but there are others supported by liberal appropriations from the various states, and some by princely gifts from individuals.

At the present time there are eighty-six schools of Science in the United States, with 15,957 students. These institutes are well equipped with apparatus, libraries, etc. Mr. Mather, the Royal Commissioner appointed to visit the United States, says of the students of these schools, "I have met in almost all the manufactories I have visited, from mining, iron and steel manufacturing, through all the mechanic arts, up to watch-making and sewing-machine manufacturing, evidences of the influence of the technical schools."

Results of Personal Visits.

In accordance with your instructions I issued the following circular :

"DEAR SIR,—I am directed by the Hon. Minister of Education to inform you that I am appointed to visit several Mechanics' Institutes in this Province, for the purpose of endeavouring to place them on a sounder basis, and to establish branch Art Schools in connection therewith.

I intend visiting _____ on _____ and shall be pleased to meet you, with any other gentlemen who are likely to take an interest in promoting this scheme, which from its educational advantages will be of benefit to the industrial classes and eventually aid in increasing the commercial wealth of our country."

This circular was sent to clergymen, mayors, reeves, school inspectors, postmasters and other prominent gentlemen in the towns and villages I intended visiting. In all cases I received prompt responses, and I take this opportunity of expressing my grateful thanks for the cordial welcome I received ; in every place I found some persons ready and willing to leave their business to aid me in convening meetings, or calling on the influential representatives of their town who would be most likely to take an interest in promoting the welfare of a Mechanics' Institute.

On investigation I found that many of the old institutes were compelled to close for want of sufficient funds to meet their expenses. In some instances the whole revenue from membership, etc., was not sufficient to pay the working expenses of the reading room. One of the chief causes of failure was establishing reading rooms without sufficient income to support them. As the directors told me, these were started in good faith, several young men would at first join, but after the novelty wore off they discontinued their membership, and the means of support was removed.

It was supposed, and very justly too, that reading rooms would be of great benefit to young men in providing intellectual amusement, and keeping them from evil company ; but experience has shown that a few newspapers or magazines do not interest them so much as skating, dancing, etc. ; and a means had to be provided which would counteract by its own attractiveness the influence of these amusements.

When I pointed out the advantages of evening classes, and especially of drawing classes, the universal opinion seemed to be that if such classes were formed, they would be patronized by the young people, who would not only benefit themselves, but would assist in developing the manufacturing interests of our country. I have been told by prominent manufacturers that they believe your scheme for Drawing Classes will not only keep the institutes up to their work, but will be of incalculable benefit to the rising generation, in assisting them to obtain that technical and practical education required in order to become successful mechanics.

Another cause of failure in Mechanics' Institutes was on account of their receiving a larger Legislative Grant than they were able to meet.

Some of the smaller institutes with only a few members asked for and were paid a grant of \$400—this amount in some cases would be expended for books, but before the local contribution of fifty per cent. could be collected, the books would have been read, and as no new supply could be obtained, the membership would drop off, and finally there would be a collapse.

At the different meetings I endeavored to point out remedies for these evils; in the first place I recommended that evening classes should be established, instead of reading rooms; that they are more attractive, and instead of being a pecuniary loss, are a source of profit. I had only to explain the system on which evening classes are so liberally assisted, to convince every person of the truth of my statement. I also explained to them the meaning of the act and its requirements in regard to Legislative Grants, showing them that it was suicidal in these institutes to ask for larger grants than they could raise local subscriptions to meet.

By this means I induced nearly all of the representatives of the old institutes to re-commence work, and many of the directors of new ones took my advice in asking only for such amounts as they could conveniently qualify for.

The result of these visits, together with my lecturing tour, can be judged when I state that for the ensuing year we shall have the largest number of institutes in operation since they were first established, and the evening classes will also be more than double in number.

One hundred and sixteen Institutes have applied for grants for 1884-5:

Sixty-four Institutes propose conducting evening classes in 1884-5. The following list shows the number of students so far as reports have been received:

NAME OF INSTITUTE.	Drawing.	Other Subjects.	NAME OF INSTITUTE.	Drawing.	Other Subjects.
Aurora	30	no	Midland	14	36
Arnprior	no	18	Milton	26	no
Aylmer	yes	no	Mitchell		
Barrie	14	12	Mount Forest	57	no
Berlin	32	no	Napanee	yes	no
B. Belleville	yes	no	New Hamburg	25	no
Bolton	yes	no	Newmarket	52	no
Bowmanville	25	56	Orillia	20	15
Blyth	no	yes	Orangeville	40	no
Bracebridge	yes	no	Oakville	35	41
Bramford	36	12	Paisley	no	28
Brockville	yes	no	Preston		
Carleton Place	16	12	Perth	15	no
Caledonia	no	yes	Paris	52	no
Clinton		yes	Penetanguishene		
Collingwood	yes	yes	Petrolia	12	7
Drayton	no	yes	Peterborough		
Dundas	yes	no	Prescott	63	no
Elora	21	no	Ridgetown	yes	no
Fergus	17	no	Sedburgh	13	25
Galt	31	no	Smith's Falls	12	10
Garden Island	20	25	Stouffville	yes	no
Goderich	yes	no	Strathroy	18	no
Harriston	yes	no	St. George	34	no
Hespeler	no	40	St. Marys	21	no
Ingersoll	40	no	Teeswater		
Kanawake	48	no	Uxbridge	27	no
Kawartha	20	43	Waled		
Leamington	no	yes	Wentworth	yes	no
Lindsay			Windsor		
Merrittton	37	no	Windsor	yes	no
	yes	no	Walkerton	yes	no

INSTITUTES VISITED.

Aucora.—This is an old established institute with a good building and a very fair library, yet little interest was taken in it during the past few years. It is now re-organized. The directors have established evening drawing classes and are entitled to a grant of \$100.

Arthur.—This institute has been closed for some years. There is a good library in the school house. Will endeavour to establish evening classes and have qualified for a grant of \$150.

Alton. This Institute has commenced under very favourable circumstances, the President, Mr. Wm. Algie, having had considerable experience in the management of Mechanics' Institutes. There is a good library, the institute owning the building in which it is kept. There are good prospects for evening classes. Entitled to grant of \$200.

Arnprior.—This institute has some very liberal supporters; a suite of rooms upstairs over a store, including a reading room; also evening classes. Entitled to grant of \$300.

Blyth.—The library is in a room behind a variety store, in a prominent situation. Have commenced evening classes, and qualified for a grant of \$60.

Bolton.—This institute has been closed since 1881. The books are kept in a store; reading room has been abandoned and drawing classes established. Qualified for grant of \$300.

Bradford. This institute has been closed for over two years; the cause of failure was keeping open a reading room for several years at a cost exceeding the members' subscriptions; were in debt about \$100 to librarian, but this has been paid off, and have now qualified for grant of \$50. The library is in a room behind a drug store, books being selected from a catalogue.

Brockville.—Institute closed, books and glass cases removed to fire hall. New officers have been elected and evening classes are proposed. Have qualified for a grant of \$300.

Bracebridge.—This institute has not reported for several years; the books are in a photographer's store; the librarian received all fees for care of the books. Have now re-organized, and established drawing and elementary classes. Qualified for grant of \$300.

Brampton.—Institute closed eight years. The mayor called a public meeting which was well attended; thirty-two persons present became members, and committees were appointed to canvass the town. The library is worth over \$1,000. The inspector reports that over \$200 has been subscribed, but the institute has not yet applied for Legislative grant.

Cheltenham. This is a new institute: library in a room behind store. Qualified for grant of \$120.

Caledonia.—New institute; library and reading room over post-office: excellent accommodation: will conduct evening classes. Qualified for grant of \$200.

Carleton Place.—A new institute, started under most favourable auspices: the directors raised over \$1,000 before they applied for Legislative Grant. They have established drawing classes and qualified for grant of \$400.

Drayton.—This is a new institute: library in a room over a store: will organize evening classes. Have qualified for grant of \$150.

Gravenhurst.—New institute. Library in a lawyer's office: rent free: no charge made for services of librarian. Some of the members proposed taking charge of evening class in elementary subjects without making any charge for same, so that the institute might get the sole benefit from the fees. Qualified for grant of \$250.

Hamburg.—This institute suffered a severe loss through the failure of a bank. There is a large reading room and good library. The directors have been liberal in their donations, have established evening classes and qualified for grant of \$200.

Ingersoll.—This institute has an excellent library, but for want of local support was unable to pay expenses. The high school has come to its assistance on condition of being

allowed to use the reference books. The directors have expended \$100 for books since my visit; established drawing classes, and qualified for grant of \$200.

Kemptville.—This institute is closed. The old officers and the high school master promised to try and resuscitate the institute and establish evening classes: but although entitled to grant, no application for it has yet been made.

Liston.—This institute was closed for several years and finally the books were sold by the sheriff. The masters of the high school, with some other gentlemen, have taken up sufficient subscriptions to re-establish the institute and establish drawing classes. Has qualified for grant of \$200.

Lancaster.—This is a new institute. The directors own the building: they commenced with a reading room, but since my visit they have started the library and evening classes. Qualified for grant of \$200.

Merrickville.—This institute has been closed for several years. Mr. Merrick, M.P.P. used strenuous efforts for its re-organization. Within a week after my visit it was re-opened with seventy-six members. Has qualified for grant of \$200.

Merriton.—New institute: library kept in town hall. I held a meeting which was well attended by representative mechanics, and fifteen persons present agreed to attend the drawing classes which are now established. Qualified for grant of \$300.

Mount Forest.—This institute formerly had its library in the high school. The directors have now fitted up a room, in a prominent position on the principal street as library and reading room: have established drawing classes and qualified for grant of \$200.

Napanee.—This institute closed in debt: a public meeting was convened when it was decided to pay out standing accounts, purchase \$100 worth of books and establish drawing classes: this has been done. Qualified for grant of \$400.

Oakville.—The books belonging to the Mechanics' Institute have been removed to the high school. The institute has now been reorganized, drawing classes and elementary classes being established. Have qualified for legislative grant of \$200.

Oshawa.—This institute has been closed for several years. The library, containing from 500 to 600 volumes and glass cases, was sold to the mayor, Dr. Rae, for about \$100: this gentleman has offered to hand over the books for the amount paid, should the institute reorganize. A meeting of prominent persons was held in the town hall, when the majority was in favour of establishing a reading room and drawing classes; a committee was appointed, but no report of its work has yet been made to the Department.

Orangeville.—The library has been recently removed to a prominent drug store, well fitted and in excellent condition: new life has been infused. Drawing classes have been established. Has qualified for a grant of \$200.

Port Colborne.—This institute has its library in the town hall. The directors will endeavour to establish evening classes: they have qualified for a grant of \$100.

Paisley.—There is a good library in the town hall: membership has been reduced to twenty-five cents: established evening classes, and qualified for grant of \$150.

Parkville.—Library destroyed by fire: institute reorganized: will endeavor to establish evening classes. Qualified for grant of \$300.

Petrolia.—This institute has a good library, with free reading room: complaints were made that it is a close corporation, and members not allowed to vote for election of officers; but the president assured me that this is not the case. Although the institute has not yet qualified for new grant, drawing classes have been established.

Pictou.—This institute was closed for several years and finally the books were sold to the high school. The Chairman of the Board promised to return the books to the institute, if reorganized: this has been partly done: new directors have been elected, but owing to delay in incorporating, etc., they have not yet applied for Legislative grant.

Schomberg.—This institute was closed for several years. The library is kept in a saddler's shop. It has been reorganized and is qualified for grant of \$100.

Sarnia.—Books are transferred to the Municipal Council to form a Free Library; but

although the Council has been paying rent for the old rooms, and taken possession of the books, no efforts have yet been made to establish the Free Library. The Directors of the Mechanics' Institute would have to expend about \$100 for books before being entitled to the new grant. Several prominent gentlemen in the town are in favour of reconstructing the institute, and there has been considerable correspondence with the Department on this subject; but arrangements have not yet been completed.

Tessmer.—New institute at present in town hall. In addition to books purchased last year, there is a small library, formerly in the possession of some society which met in the place. Qualified for grant of \$150.

Thornhill.—New institute. At the time of my visit had not established a library, but had a reading room in the Odd Fellows' Hall. Has since purchased books, and qualified for grant of \$100.

Walkerton.—This institute has an excellent library in the office of the Collector of Customs. Has reorganized so far as to establish drawing classes, and made the necessary expenditure to qualify for grant of \$100.

Warton.—This Institute, although not reporting, has not been finally closed: the books are kept in a store, and the librarian receives the fees from members. There is a small balance in the bank, and those interested are now endeavouring to infuse new life into the institute by lectures, etc. Will have to expend \$100 before being entitled to new grant.

Whitby.—This is one of the oldest, and was formerly one of the best institutes in the Province, but for want of local support has had a lingering existence for several years. Has reorganized, established drawing classes, and qualified for grant of \$200.

S. P. MAY.

TORONTO, 31st December, 1885.

TABLE B.—Membership,

No. of VOLUMES IN LIBRARY.													
MECHANICS INSTITUTE.	Number of Members.	Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travel.	Works of Reference.	Total No. of Volumes.	
1. Ailsa Craig	92	190	227	144	610	41	48		181	107	25	1573	
2. Alexandria (last report)		22	10	67	56	27	40		3	10	46	281	
3. Alliston		8	139	39	109	6	31		4			340	
4. Alton	33	16	90	43	44		22		7	17	15	254	
5. Arkona (last report)		5	67	26	186	10	24		50	17	3	388	
6. Arnprior	93	3	43	6	32	29	1		17	5		136	
7. Arthur		5	50	50	120		15		20	50		310	
8. Aythya	161	150	342	173	377	34	75		185	111	106	1553	
9. Ayr	156	260	677	299	553	61	68	71	188	206	37	2420	
10. Aurora (last report)												524	
11. Barrie	296	328	841	340	329	75	81		271	331	44	2640	
12. Belleville	173	74	665	184	298		24	20	76	96	150	1587	
13. Berlin (Free Library)													
14. Bolton	67	30	46	52	47		38		28	37	5	283	
15. Bowmanville	85	92	364	178	312	30	28	133	83	167	33	1420	
16. Blyth	58	79	144	75	254	64	55		55	72	15	813	
17. Bracebridge	29	50	220	78	141		47	37	57	32		662	
18. Bradford (last report)		90	172	95	360	38	23		38	77	16	909	
19. Brampton												1000	
20. Brantford (Free Library)	251	486	1450	450	585	255	150	156	636	309	125	4602	
21. Brighton	68	92	233	150	159	52	36	10	167	135	17	1051	
22. Br. ckville (last report)		96	644	103	162	31	30		85	60	140	1351	
23. Brissas	128	137	121	116	330		33		103	61	15	916	
24. Caledon	103	13	105	28	36		7	5	18	8		220	
25. Caledonia	52	27	101	20	26	34	10	31	27	9	1	286	
26. Carleton Place	109	20	141	25	43		14		54	32	13	342	
27. Chatham	305	127	5125	308	368	68	81	23	158	486	40	6784	
28. Cheltenham	51	22	27	18	24				6	6		103	
29. Clarksburg (last report)	17	32	112	29	47	16	10		33	23	19	321	
30. Claude	26	81	122	108	189	12	16	17	105	77	16	743	
31. Clinton	177	144	402	205	190	125	52	32	162	107	52	1471	
32. Collingwood	87	345	328	424	443	266	95	91	424	458	150	3024	
33. Columbus	20											560	
34. Drayton	60	15	36	8	8		3	15	7	3	12	107	
35. Dundas	116	768	885	554	1023				1296	908	183	5617	
36. Dunnville (last report)												1200	
37. Durham (last report)		210	484	142	286		1	45	196	62	33	1459	
38. Elora	212	548	1182	541	927	466	165	146	1180	633	189	5977	
39. Embro	79	130	319	159	117	41	37		23	6	21	853	
40. Ennottsville	52	108	182	92	116	106	42	122	148	65	49	1030	
41. Exeter	86	95	436	118	172	21	72	74	108	92	76	1264	
42. Fenelon Falls	133	34	398	163	86		28	39	116	76	31	971	
43. Fergus	97	199	223	369	258	403	80	178	360	207	304	2581	
44. Forest	120	112	230	60	134		34	73	138	39	10	830	
45. Galt	450	270	630	330	521	467	140	153	449	270	205	3435	
46. Garden Island	134	93	226	390	239	19	119		684	413	92	2275	
47. Georgetown	70	66	185	104	453		17		166	42		1033	
48. Glencoe	130	105	95	129	151		39	26	49	36	20	650	
49. Goderich	183	176	428	212	181	210	63	65	226	233	24	1818	
50. Grimsby	82	151	392	179	777		9	41	12	474	320	16	2371
51. Gravenhurst	56	12	50	10	18	200	6	14	16	12	8	346	
52. Guelph (Free Library)	1266	383	925	366	390	400	98	167	429	336	235	3729	

Libraries and Reading Rooms, 1883-4.

No. of Volumes Issued.											Reading Room.	
Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travels.	Works of Reference.	Total No. of Volumes.	No. of Periodicals.	No. of Newspapers.
240	976	129	1007	106	27		95	107	19	2706		
+												
42	470	33	64		20			53		682		
+												
28	120	7	42	143	2		17	11		350	24	5
+												
280	1783	110	451	4	52	71	55	310	6	2600	13	2
+										3122	16	17
197	2810	251	221	324	87		215	1109		5214	11	8
+												
110	10 0	475	700		90	50	100	359	250	3164	18	14
+												
										1910		
+										512		
+												
21	50	42	300	6	8		20	62				
+												
175	4680	106	323	650	85	109	197	161		6484	17	15
+												
35	575	50	111	76	88		51	108		1094	9	10
+												
60	190	67	200		25		20	100	20	682		
+												
17	509	37	66		4	10	18	19		680		
+												
3	226	10	10	25	8	4	22	7		315		
+												
8	108	12	51		4		13	20		216	5	23
+												
82	5782	120	233	150	31	16	65	226		6705	23	5
+												
12	95	7	29				6	27		206		
+												
28	57	19	93	8	7	13	17	26		268		
+												
420	998	362	822	1580	158	108	234	512	80	5274	29	12
+												
420	936	360	873	321	286	263	371	726		4556	11	8
+												
				Books not in circulation until after 1st May.						147		
+												
217	1192	108	279				294	411	150	2951	4	6
+												
160	2307	163	228	862	48	39	242	318	1	4368		
+												
416	586	480	120	18			20	18	12	1670	8	11
+										702		
67	934	69	132		25	53	60	125	66	1531		
+												
75	1266	117	88		35	30	56	278		1945	11	28
+												
192	2012	269	352	43	158	15	307	299	31	4091	8	6
+												
164	1275	101	125		37	54	176	93		2025		
+												
248	6385	275	705	1000	210	135	399	715	10	10082	18	24
+												
321	562	395	272	27	120		130	143	19	1989	14	16
+												
42	544	59	1042		11		23	43		1764		10
+												
91	500	205	115		30	12	70	110		1133		
+												
225	2196	150	321	206	60	108	180	322	6	3774	13	16
+												
31	1343	72	333	830	32		108	69	14	2832	9	
+												
7	75	6			4	1	4	3		100		
+												
687	14316	801	2022	2175	267	300	615	2067		23250	14	22

* No classified report kept.

† No Report.

‡ No books issued this year.

TABLE B.—Membership,

MECHANICS INSTITUTE.													
	Number of Members.	Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travel.	Works of Reference.	Total No. of Volumes.	
53. Hanover	47											276	
54. Harriston	141	102	298	119	262	284	66	110	319	119	30	1709	
55. Hespeler	92	172	243	162	304	17	69		180	96	50	1293	
56. Ingersoll	117	178	445	197	362	25	54	30	58	102	19	1470	
57. Kemptville													
58. Kincardine.....	204	106	511	113	296	378	71		137	94	105	1811	
59. Kingston	310	350	1450	360	180	1038	69	153	407	300	210	4517	
60. Lancaster	55												
61. Lindsay	101	88	289	149	220	14	30	50	107	69	40	1056	
62. Listowel (last report)...		70	139	58	104	26	24		82	24	14	541	
63. London	370	230	725	245	686	410	97	150	259	138	145	3075	
64. Lucan	13	51	107	86	85	8	31		32	46	5	451	
65. Mantowaning	38	16	50	22	70	2	6	19	32	7	3	227	
66. Markham (last report)...	53	117	151	96	120	5	29		136	105	33	792	
67. Meaford	110	84	302	102	149	18	39	10	65	80	45	895	
68. Merrickville		50	79	75	112	47	15	51	50	55	22	556	
69. Merriton	79	5	48	18	21		13		7	2		114	
70. Midland	84	19	47	16	39	3	12	10	29	10	10	195	
71. Milton	146	240	361	377	557	326	96		465	258	46	2726	
72. Mitchell	143	109	369	164	249	115	36		151	361	164	1718	
73. Mount Forest	80	106	92	292	108		76		145	87	16	922	
74. Napanee			Not classified since Institute was temporarily closed.										
75. New Hamburg	39	19	136	24	95		23		7	9	11	324	
76. Newmarket	45	60	246	94	184	19	33	23	45	110	14	828	
77. Niagara	58	348	531	450	171	100	170	422	294	273	100	2859	
78. Niagara Falls	235	228	639	229	305	41	120		277	166	40	2045	
79. Norwich	74	79	431	83	204	44	33	99	47	75	32	1127	
80. Norwood	50	60	410	60	100	109	30	110	78	90	25	1063	
81. Oakville (last report)...												719	
82. Orangeville	149	104	536	111	195		36	46	98	61		1187	
83. Orillia	243	107	356	152	207	12	54	27	212	136	29	1292	
84. Oshawa												1000	
85. Owen Sound	180	100	445	188	419	28	40	30	124	81	34	1489	
86. Paisley	131	100	204	128	488	80	50	60	207	120		1437	
87. Palmerston	89	15	164	14	64		6		21	21	4	309	
88. Paris	241	341	571	517	731	232	139	397	535	411	98	3972	
89. Parkdale	85	22	478	45	207	35	13	9	63	51	39	962	
90. Parkhill	51	148	299	138	112	105	50	20	136	86	68	1162	
91. Pentanguishene (last re)...			Books destroyed by fire.										
92. Perth	185	146	234	177	475	26	60		86	56	22	1282	
93. Peterborough	486	392	641	297	1984	112	111	186	449	335	146	4653	
94. Petrolia (last report)...		60	484	63	172		50		77	35	25	966	
95. Point Edward	120	81	221	119	180		9		153	60	4	827	
96. Pictou			Books sold to High School, but to be re-purchased.										
97. Port Colborne	24	36	260	83	56		40	13	89		23	600	
98. Port Hope	171	198	725	162	202		31	4	135	150	27	1634	
99. Port Perry (last report)...	70	75	292	95	230		54		194	60		1000	
100. Prescott	158	197	307	145	252		55	35	98	177	31	1297	
101. Preston	93	390	354	364		134	718		1018	533	86	3597	
102. Reelfoot	101	153	412	185	232	189	58		174	69	23	1495	
103. Richmond Hill (last re)...												547	
104. Ridgeway	121	61	703	116	55	157	18	31	72	65	27	1305	

Libraries and Reading Rooms, 1883-4.

NO. OF VOLUMES ISSUED.											READING ROOM.	
Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travel.	Works of Reference.	Total No. of Volumes.	No. of Periodicals.	No. of Newspapers.
* 102	740	230	315	137	59	74	150	207	110	491	7	6
110	603	77	722	1375	43		174	182		2124	10	2
91	1457	25	76	350	103	25	9	221	35	3286	25	
† 125	2367	133	446	1983	89		127	334	72	5676	30	6
80	6000	125	360	3120	38	50	43	280	104	10200	28	19
Library not established until after May.												
194	590	315	280	30	15		130	371		1925	16	14
Books sold, but Institute re-established.												
118	3394	194	356	258	65	8	178	374		4945	18	41
13	58	20	39	3	12		7	23	7	182		
8	115	18	18		4	4	13	7	1	188		
† 143	653	164	104	20	68	10	124	166	32	1484		
++										600		
41	241	26	74		26		27	31		466	11	4
† 89	696	120	604	115	195		246	119		2244	3	12
+++											11	12
12	271	27	76		19		5	6		416	2	7
19	588	35	63	8	11	13	13	85	7	842		
500	1050	100	752	2000	625	120	20	700	20	5887	10	3
124	2328	182	260	130	72		192	216		3504	9	6
66	850	90	150	250	18	41	15	130	20	1630		
* 123	2276	80	130	54	23	27	42	97		2852		
99	2060	200	522		82		249	846	12	4070	17	7
† 250	1500	500	500		25		300	450		3525		
150	530	150	115		20	40	110	100		1215		
32	611	35	113		3		21	25	5	845		8
175	3129	227	2051	447	113	141	239	278		6800	33	9
10	1085	43	201	118	9	3	40	84	3	1596	11	11
104	324	70	156	10	30	13	50	128	15	900		2
132	1416	176	1620	226	81		106	233	14	4004	10	11
80	2636	152	3247	108	60	56	370	360	184	7253	22	14
										1881	5	6
										600		3
107	2971	115	236		10		31	150		3620	33	16
10	104		31		2	15		4		166		
68	1322	89	120		53	61	75	400	20	2208		
143	1096	96		497	290		199	571		2892	22	12
53	2041	75	197	288	34		56	113	2	2859		
* 72	1753	135	373	286	55		254	483	74	3485	12	6

* No classified record kept.

† No report.

‡ No Books issued this year.

TABLE B.—Membership,

MECHANICS INSTITUTE.	Number of Members.	NO. OF VOLUMES IN LIBRARY.										
		Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travel.	Works of Reference.	Total No. of Volumes.
105. Sarnia (last report)		79	364	172	305	0	35	10	86	88	34	1173
106. Schomberg	50	15	17	26	29	0	20	32	21	21	11	192
107. Scarboro	56	215	328	206	233	110	51	315	187	188	34	1867
108. Seaforth	308	180	664	335	317	213	57	0	351	182	83	2382
109. Simcoe (F. Lib., last rpt)		222	1076	240	426	0	116	0	228	237	67	2612
110. Smiths' Falls	213	221	405	241	706	82	62	0	401	231	132	2481
111. Stoneville	77	70	213	75	185	11	27	64	160	70	45	920
112. Stratford	109	179	1050	300	800	298	95	20	282	260	34	3318
113. Strathroy	281	144	613	311	272	129	72	75	207	152	60	2035
114. Streetsville	104	215	532	232	140	26	209	68	293	152	54	1921
115. St. Catharines	227	537	1722	525	686	535	168	0	581	508	84	5346
116. St. George	84	105	523	161	115	35	26	55	95	123	30	1268
117. St. Mary's	192	400	700	500	900	157	160	250	141	360	140	3708
118. St. Thomas (Free Lib.)	106	54	300	106	526	52	26	16	149	47	52	1328
119. Teeswater	83	9	18	19	30	0	0	0	6	4	0	86
120. Tilsonburg	109	105	477	67	163	132	42	16	42	35	45	1124
121. Thornedale	107											
Library not established up to 1st May.												
Not catalogued.												
122. Toronto (Free Library)												
123. Thorold (last report)		227	736	375	397	173	63	0	277	912	42	3202
124. Thunder Bay												
125. Vittoria (last report)		37	35	73	140	6	13	0	16	29	17	366
126. Uxbridge	168	354	1305	273	277	129	68	138	441	320	52	3357
127. Walkerton	38	44	344	86	258	0	27	0	92	66	28	945
128. Wardsville	37	140	250	230	430	0	49	0	100	240	40	1470
129. Waterloo	140	106	589	179	991	256	159	0	166	141	49	2636
130. Watford	36	40	101	29	396	108	10	0	5	18	34	741
131. Welland	144	152	573	148	114	0	29	0	156	241	32	1445
132. Whitby	96	118	403	192	42	72	18	163	156	213	24	1401
133. Wiaartont	34	25	125	80	84	2	16	16	19	9	4	380
134. Wingham	139	176	422	135	213	55	63	0	196	213	35	1508
135. Woodbridge (last report)		40	80	65	120	0	20	0	32	34	0	391
136. Woodstock	226	330	1260	350	380	59	77	168	353	344	195	3516
137. Wroxeter	62	162	114	207	137	41	37	39	98	67	24	926
Total	14572	16801	51448	20469	33233	10428	6823	5259	21994	17582	5937	195770

Libraries and Reading-Rooms, 1883-4.

No. of Volumes Issued.											Reading Room.	
Biography.	Fiction.	History.	Miscellaneous.	Periodical Literature.	Poetry and the Drama.	Religious Literature.	Science and Art.	Voyages and Travels.	Works of Reference.	Total Number of Volumes.	Number of Periodicals.	Number of Newspapers.
100	758	38	169	282	12	148	80	105	8	1700		
640	4402	1625	703	994	262	0	632	1340	0	10598	12	15
†.....												
292	2340	344	1104	317	90	0	437	424	0	5348	13	17
31	648	22	198	8	14	0	80	141	0	1142	7	6
231	1632	308	243	1226	117	114	139	0	0	3470	29	7
165	3588	335	372	533	63	88	180	381	46	5751	14	12
†..												
158	2408	212	394	1733	53	0	185	1147	0	6290	13	7
29	796	61	148	40	18	20	79	146	3	1340	14	4
430	3170	750	910	160	155	410	900	850	0	7735	8	6
			No books issued up to 1st May.									
8	43	31	47	0	0	0	0	1	11	144	151	.....
150	400	100	175	200	150	50	150	100	0	1475	14	10
†.....										17000 one month.		
†.....												
144	1848	120	192	136	36	120	372	216	72	3256	22	10
7	298	15	157	10	10		31	22	10	620		
108	150	102	152	11	11		12	159	10	704		
40	1567	112	1042	808	61		95	320	13	4058		
•										1092		
28	2555	23	79		16		42	92	2	2837	3	7
†.....												
†.....												
257	1570	251	274	135	187		187	804		3665	23	27
208	5720	140	440	7886	120	204	90	618	0	15426	42	12
83	324	115	122	83	12	0	31	41	0	811		
11714	137400	14265	33018	35288	5773	3261	11537	23638	1899	304816	858	683

* No classified record kept.

† Not report.

‡ No books issued this year.

TABLE C.—Evening Classes, 1883-4.

MECHANICS' INSTITUTES.	ELEMENTARY SUBJECTS.			TECHNICAL SUBJECTS.			
	Writing, Phonography and Book-keeping.	English Grammar.	Arithmetic and Mensuration	Mechanical and Free-hand Drawing.	Elements of Physics.	Chemistry.	Telegraphy.
Brantford	49		49				
Clinton	4	4	4	10			
Dundas				20			
Fergus	17	17	17				
Galt				29			
Garden Island	40	39	49		25	22	14
Goderich	19		19	19			
Guelph (Free Library)	77						
Harriston	31		15				
Hespeler	27		27				
Kingston	74	32	32				8
Lindsay				37			
Meaford	20		20				
Milton				17			
Mitchell				21			
Midland	18		18				
Orillia	21		21				
Peterborough	17			12			
Preston	24		24	24			
Ridgetown	16		24				
Seaforth	5		5	37			
Smith's Falls	30		30				
Streetsville	13	13	13	12			
Stouffville				27			
Strathroy	11	11	11			5	
St. Marys				21			
Tilsonburg	9						
Uxbridge	24		12	16			
Welland	25	25	25				
Wingham	15		14			7	
Total	586	141	429	302	25	34	22

48 Victoria.

s (No. :

AND I

NAMES OF INSTITU

	Library
Stratford	1
St. Catharines	25
St. George's	24
St. Mary's	20
St. Thomas (Free Library)	12
Thorndale	3
Tillamook	748
Toronto (Free Library)	
Thornhill	
Thunder Bay	116
Vancouver	
Vernon	17
Walden	38
Wardsville	
Wardlaw	10
Wardlaw	87
Wardlaw	
Whitby	26
Whitby	6
Whitby	74
Whitby	
Whitby	300

Total

closed. 1
received.

ANALYTICAL LIMITATIONS

[illegible]

3. REPORT OF THE ASSOCIATION OF MECHANICS' INSTITUTES OF ONTARIO.

The Sixteenth Annual Meeting of the Association was held in Toronto, September 17th, 1884. The President, Otto Klotz, Esq., called the meeting to order, and seventy gentlemen presented credentials of appointment as delegates representing their respective Institutes:

Dr. S. P. May, Superintendent of Mechanics' Institutes, was also present as representing the Hon. the Minister of Education.

The President, in addressing the association, briefly referred to the very satisfactory representation of the Institutes present, to the operations of the association for the year, and to the desire manifested by the Hon. the Minister of Education to forward the views of the executive committee in its endeavours to advance the interests of the Associate Institutes.

The Secretary drew attention to the form recommended for an Accession Catalogue for the Libraries of the Institutes: Mr. Polson said that this catalogue and other forms prepared by the Secretary will much facilitate the work of the Institute Officers in making up the yearly returns to the Government.

A Delegate requested Dr. May to give information concerning the engagement of teachers for drawing classes in the Institutes, especially as to what will be recognized as constituting a "properly qualified" Teacher. In reply Dr. May said that all those who had successfully passed the examinations in drawing at the recently conducted Teachers' Vacation Class, at the Education Department, will be accepted as "properly qualified." If, however, institutes cannot get these teachers, but can secure competent teachers in their own districts, they are at liberty to do so, and the Institutes must judge of the qualifications of the persons so employed; and the test of their ability for teaching will be apparent when the work of their pupils shall be submitted in Toronto for official departmental examination. If an Institute finds it impossible to secure a teacher in its own locality, upon application to the Education Department one will be sent, if possible, from Toronto, who could perform similar duties for several Institutes.

The subject of continuing another session the system of the free lectures of the past years was very fully discussed, when it was resolved that these lectures be continued.

The following officers were then elected by ballot:—

President,—Mr. Otto Klotz, of Preston.

Vice-President,—Rev. Father Harris, of Newmarket.

Secretary-Treasurer,—Mr William Edwards, of Toronto.

Executive Committee,—Mr. Thomas Cowan, of Galt; Mr. N. C. Polson, of Kingston;

Mr. J. A. Morton, of Wingham; and Mr. A. H. Manning, of Clinton.

Auditors,—Mr. John Taylor, and Mr. J. K. Macdonald, of Toronto.

The following resolutions were then passed.

That the Executive Committee be again instructed to endeavour to procure Legislative enactment whereby Mechanics' Institutes be authorized to set apart annually 25 to 50 per cent. of their Legislative Grants for building purposes, for the erection of institute buildings.

That the Executive Committee be requested to procure Legislative enactment and departmental regulations to the effect that the expenses incurred by the various institutes in sending a delegate or delegates to the annual meetings of the Association, be allowed to be charged as a legitimate expenditure in qualifying for legislative aid.

The Sixteenth Annual Report of the Executive Committee as follows, was adopted:

The Executive Committee begs to present its Report of the proceedings of the Association for the past year:

Associate Institutes.

Last year your committee reported that the Guelph and Toronto Mechanics' Institutes had made over their entire assets and liabilities for the purposes and uses of the Free

Public Libraries in their respective cities. During the past year the institutes of Berlin, Simeoe, and St. Thomas have made their respective properties over to their municipalities for similar purposes and uses, under the recent statute.

During the year fourteen new institutes have been incorporated, and recognized by the Minister of Education, making the total number of Associate Institutes now in the Province to be 139, of which eighty-one received legislative grants during the past year.

(Statistical tables follow, showing receipts, expenditure, volumes in library, evening classes etc.) The Committee, in reference to evening classes, say :—

The number of classes (thirty) and pupils reported may appear to be small, as compared with the number of aided institutes; yet, in the face of the more stringent rules and regulations of the past two years, it shows an advance of more than 400 per cent. over former years. Several of the institutes are already preparing for an early organization of classes, and we may, therefore, anticipate greater success for the coming session.

(The Committee also refer to the drawing classes established by the Minister of Education, and say :—)

The cry of the institutes is, "We have not been able to institute classes for technical education, for the reason that we could not command the services of a teacher competent to teach them." "Send us a good drawing master." The institute wishes you to get a good teacher for us," etc., etc.

Roll and Record Books.

In the last annual report your committee submitted a system, devised by your Secretary, for the classification of the books in the libraries of the institutes, and for recording by a system of double entry the issue and exchange of the books. The question of the adoption of this system was referred back for action by the Executive Committee. The forms were still further improved and simplified by your Secretary, and adopted by your committee; and twenty-two reams of paper of the Roll and Record book forms were prepared and bound up into 325 books of six different sizes, and issued with full explanatory circulars of instruction for their use, at the rate of three cents per sheet of two folios. Up to date sixty-five institutes have been supplied with these books.

Free Lectures.

In accordance with the resolution adopted at the last annual meeting, with a view of securing the delivery of "a course of scientific lectures throughout the Province for the benefit of the Associate Institutes," the Executive Committee carried out your wishes as far as it was possible for them to do so, considering the shortness of the time at their disposal to inaugurate the system and complete arrangements.

Your President delivered an address which was subsequently published and sent to the Associate Institutes, in which he explained a scheme he had devised to provide that one free lecture should be delivered to each and every Associate Institute.

The institutes were invited to name persons known to them as competent and willing to deliver such lectures. An advertisement was also inserted in the newspapers inviting communications from gentlemen competent and willing to engage as lecturers. On condition that the lectures should be free to the public, the Association agreed to pay \$20 for each scientific lecture, and \$8 for each lecture of a general character; and the Honourable the Minister of Education agreed to allow the other expenses of such lectures to the extent of \$15 and \$8, respectively, to be charged by the institutes against their legislative appropriations.

It was unavoidably very late in the season before the programme of lectures and subjects was ready for distribution to the institutes, so that the number of association lectures delivered was not large. Those delivered have *generally* been well received, and in several cases have been the means of renewed activity and interest in the institutes in the community. The *average* of the attendance of the 38 free lectures was about 393.

The general testimony in respect to the association lectures is, that they were a success, and have been the means in several instances of reviving interest in the institutes; and,

with two or three exceptions, all express their opinion that the system should be continued, only that the directors should be allowed to charge an admission fee or not, as they see fit.

Your committee, therefore, recommends that the association's system of one free lecture for each Associate Institute be continued, and that the association pay from its funds \$15 and \$10, respectively, for a scientific or general subject lecture, and also recommend that each institute supplement these grants when necessary, and be allowed to charge an admission fee to all except members of their institutes and their families.

The Treasurer's audited statement, hereto appended, shows the total receipts for the year to have been \$1,293.95; balance from the previous year, \$1,328.35; together, \$2,622.30. The total expenditure for the year has been \$1,532.28; the balance in hand in the Bank of Toronto, \$1,090.02

All which is respectfully submitted.

Signed by order of the Executive Committee,

OTTO KLOTZ, *President.*

W. EDWARDS, *Secretary-Treasurer.*

Treasurer's Analyzed Statement for the year ending July 31st, 1884.

1883.	RECEIPTS.	\$ c.	1883.	EXPENDITURE.	\$ c.
Sept. 1.	To Balance in hand,	1,328 35	By	Printing Annual Reports and Circulars and Advertising	129 58
"	Legislative grant for 1883-4	1,200 00	"	Twenty-two reams of paper, ruled, printed, and bound up into Roll and Record Books, and including allowance of \$50 to the Secretary for extra services devising and preparing same.	434 50
"	Proceeds of Sales to Institutes of 61 Roll Books.	45 70	"	Expenses of Executive Committee, use of hall, etc.	122 00
"	Proceeds of Sales to Institutes of 62 Record Books	48 25	"	Postage, books and stationery, etc.	29 20
			"	Institutes for fees for 29 Scientific Lectures, as per list in Report.	580 00
			"	Ditto, do. for 9 general lectures, as per list in Report.	72 00
			"	Commander Cheyne, in expenses	5 00
			"	Secretary-Treasurer's salary	150 00
			"	Auditor's fees.	10 00
			"	Balance in hand.	1,090 02
		\$2,622 30			\$2,622 30

(Signed) { J. K. MACDONALD, } *Auditors.*
 { JOHN TAYLOR. }

TORONTO August 25th, 1884.

II. ART SCHOOLS.

The Governments of Great Britain, France, Germany, Belgium and the United States, have on different occasions appointed Commissioners to ascertain the value of Art Education, and they have all decided in favor of drawing being taught to mechanics and artisans, and even to young children.

As we in this Province of Ontario cannot afford to throw away fifteen or twenty years in experimenting, we must profit by the experience of other countries, finding out wherein they failed and how they succeeded.

So far back as 1836, the Board of Trade in England established schools of design in the manufacturing cities, which were liberally assisted by the Government. From 1836 to 1851, drawing and designing were taught to adults by skilful teachers, in localities where designs were required, but this plan did not succeed, because there was no demand for, or appreciation of a higher standard of art. The remedy for improving artistic taste could not be obtained either by importing or instructing designers, but by creating a demand as well as giving a supply. In this case, the supply was provided before the demand existed, and the system was a failure. Manufacturers had no encouragement to produce beautiful work, where vulgar taste, or want of education, induced people to prefer a bad design to a good one. The whole people had to be educated, and the true remedy was eventually found, by bringing up workmen, and training teachers to give every child an opportunity of developing artistic taste.

At the first Universal Exhibition in 1851, public attention was directed in England to the necessity of providing Industrial Art Education both for adults and children; it being found that foreign competitors exhibited goods so much superior in excellence of finish and design, that the British Government was compelled to establish art schools for workmen, and for training of school teachers to be employed in teaching drawing to children. This was not done through philanthropic motives of extending educational facilities, but as a measure of self-preservation: and from that time to the present, there has been a gradual growth of Art Education in England, which has now produced stupendous results. For example, in 1883 the large number of 767,194 children and pupil-teachers were taught drawing in 4,526 Elementary Schools; 26,424 students were in attendance in 499 Art and Science Classes: and 35,909 students attended in 169 Schools of Art. In addition, 710 students attended the National Art Training School, and 506 students in the Dublin Metropolitan School of Art, making a sum total of over 800,000 persons taught drawing, painting or modelling in the year 1883, in the schools conducted under the direction of the Science and Art Department. The method of payment is by results, and over \$250,000 was paid during the year. It will thus be seen that, in addition to the drawing schools provided for the industrial class of the adult population, every child has an opportunity of learning how to draw; and in this way an improved taste for beautiful and artistic designs in the different branches of trade and manufacture, is developed.

Our position in Canada at the present time is in advance of that of England in 1851, so far as a desire for excellence in workmanship and design is concerned: our people are not now satisfied with the style of the articles manufactured forty or fifty years ago: we have a more refined taste, partly created by more frequent communication with older countries; but chiefly on account of our increased educational facilities: and the consequence is that if the Canadian manufacturers cannot produce the kind of goods required, we will have to be supplied by importations from foreign countries; skilled workmanship can only be got from skilled and trained workmen. The questions now arise, how can we train our workmen? What is the preparatory stage of industrial education? In reply, I would say that drawing is the first step in industrial art education; it cultivates the taste; it strengthens the sense of sight, and makes us see objects truthfully.

Art in this country has long been considered as an amusement or a luxury; it, however, stands in the foremost ranks of practical subjects: it is valuable to every person and concerns the advancement of the rich as well as the poor; it exercises an influence for culture and refinement, and when applied to the commonest product of labor, it increases its value. It is not the privilege of a class, but is individual and universal; it

is one of the necessities of the workingman's education, and there is no department of science and art, or industry, where it is not called into requisition. This is self-evident from the following statement, which is taken from the census of 1881, showing the number of persons employed in various industries in the Dominion, and the particular branches of art that would be of benefit to them :—

INDUSTRIES.	NUMBER OF HANDS EMPLOYED.	ART INSTRUCTION.
Agricultural implements	3,656	Drawing and designing.
Bank note engraving	94	" "
Basket-making	227	" "
Belt and ties	13	Modelling.
Billiard table factories	20	Drawing and designing.
Book-binding	12,451	" "
Boot-making	121	" "
Book-making	330	" "
Book-binding	1,036	" "
Boots and shoes	18,940	" "
Brick and tile-making	4,129	Modelling.
Brown and brush-making	957	Drawing.
Button factories	470	" and color.
Cabinet and furniture factories	5,857	" and Designing
Car and Locomotive works	3,154	" "
Carding and fulling mills	901	" machinery.
Carpenters and joiners	5,702	and Designing.
Carpet-making	15	" "
Carriage-making	8,713	" "
Carving and gilding	418	" " modelling.
Church decorations	48	" "
Corset factories	320	" "
Cotton factories	3,527	" " color.
Cutlery	67	" " designing.
Dentistry	10	Modelling.
Dressmaking and millinery	7,838	Drawing.
Dyeing and scouring	164	Colour.
Edge tool-making	546	Drawing.
Engine building	1,061	" machinery.
Engraving and lithographing	474	" and designing.
Fireproof safe-making	124	" "
Fitting and laundry-working	2,194	Modelling.
Floor cloth-making	20	Drawing and color.
Foundries and machine working	7,789	" " modelling.
Furniture and hat-trs	2,350	" "
Glass works	642	" " modelling.
Grocery and hatter-making	532	" "
Gold and silver-working	83	" " modelling.
Grocery-making	59	" "
Hosiery factories	1,556	" "
India-rubber factories	525	" "
Jewelry and watch-makers	778	" " modelling.
Lamp-glass and chandelier-making	78	" "
Leath factories	118	" "
Leather-working	175	" "
Mathematical instrument-making	22	" "
Musical	941	" "
Nut and bolt works	153	" "
Paint and tin factories	150	" "
Paint and varnish works	281	Color.
Painters and glaziers	759	Drawing and color.
Paper manufactures	1,520	" "
Paper bag and box-making	258	" "
Photographic galleries	422	" " color.
Picture frame making	2	" " modelling.
Planing and moulding mills	633	" " machinery.
Plaster and stucco works	84	Modelling.
Patterns	696	" "
Printing offices	5,311	Drawing and color.
Pump factories	470	" "
Saddle and harness-making	2,911	" "
Sash, door and blind factories	2,878	" "
Saw factories	52	" "
Screw factories	66	" "
Sewing-machine factories	1,188	" "
Shirt, collar and tie-making	1,491	" "

INDUSTRIES.—Continued.

INDUSTRIES.	NUMBER OF HANDS EMPLOYED.	ART INSTRUCTION.
Skate factories	20	"
Spring and axle factories	196	"
Stone and marble cutting	1,991	" and modeling.
Straw works	232	" " color.
Surgical appliances	45	"
Tailors and clothiers	13,029	" " color.
Tent and awning factories	36	"
Tin and sheet-iron working	3,685	"
Tobacco pipe factories	61	"
Trunk and box-making	626	"
Type foundries	36	" " modelling.
Wall-paper factories	59	" " color.
Wax candle and taper factories	27	" " "
Whip factories	72	"
Window shade factories	53	"
Wire works	66	" and designing.
Wood turning	604	" " modelling.
Wool cloth-making	6,876	Color.

We find from the preceding statement that over 150,000 persons are employed in this Dominion, to whom drawing, painting and modelling would be highly beneficial.

In Ontario, until recently, we had only two Art Schools assisted by the Government. In the Province of Quebec an annual grant of \$10,000 is made to the Council of Arts and Manufactures, for establishing free evening drawing classes: apportionments are made by the Council from this fund, varying from \$150 to \$1,700 per school.

Of course two Art Schools in this Province may remedy in a limited direction a want of taste or skill, but in comparison with our real requirements, it is like a drop of water thrown into a bucket: and I felt that the demand was greater than the supply, therefore I have had to extend my operations for the present only so far as the limited means at my disposal would allow.

The Ontario Society of Artists, which formerly had charge of the Ontario School of Art, resigned its connection with that school last summer, and it is now entirely conducted under the management of the Education Department. The society is deserving of great praise for its efforts in connection with the School of Art. The latter was founded in 1875, and received an annual amount of \$1,100 from the Legislature until 1879, when the Council found its indebtedness was so great that it had to memorialize the Government for an increased amount to pay outstanding debts, and to conduct the school in 1880. The grant was therefore increased to \$1,500. In the annual report of 1880, the Council says, "The school is growing too large, and the question of art education in the Province too important, to be conveniently managed by a voluntary association of teachers." In this report the Council prays that the sum of \$3,000 be placed in the estimates for the ensuing year. As the grant for the maintenance of the school had so much increased, it was removed to the Education Department in 1881, thus saving a considerable amount of the expenses of rent, management, etc., and allowing the students the privilege of the use of the valuable collection of plaster casts, engravings, paintings, etc., in the Educational Museum. It was also agreed to establish classes specially adapted for mechanics, teachers and Normal school students. That this is now effectually carried out is seen by the following extracts from the report in 1881, of Mr. William Mather, English Royal Commissioner on technical education in the United States and Canada: he says: "The Ontario School of Art in Toronto is an institution supported by the Legislature of the Province, for the purpose of imparting special instruction, embracing subjects in science and art teaching suitable to mechanics, and bearing on their employment. There are evening classes adapted to workingmen. This excellent school is the commencement of an institution similar in object and appliances to our South Kensington

Museum. Although in its infancy, the instruction given is evidently valued by the various trades of the city. Out of 121 students last year, one-half were engaged in trades and manufactures; the remainder studying as teachers. The instruction is confined to drawing in every branch, and designing. I was particularly struck with the manifest relation between the work done in the school and industrial pursuits."

Soon after the Department assumed the responsibility of the entire management of the Ontario School of Art, a circular was issued to the Head Masters of High Schools, Principals of Model Schools, and Teachers of Public Schools, informing them that Free Industrial Drawing Classes would be conducted during the ensuing summer holidays, at the Ontario School of Art, the course of instruction to consist of twelve lessons each in Drawing, Practical Geometry, Linear Perspective, Model Drawing, and Blackboard Drawing from memory. One hundred and twenty-seven male and female teachers availed themselves of this opportunity to improve in the practice of drawing.

The success of the summer classes may be judged of from the following list of proficiency certificates awarded at the end of the session :—

	71	teachers	passed	in	Freehand	Drawing.
102	"	"			Practical	Geometry.
75	"	"			Linear	Perspective.
48	"	"			Model	Drawing.
56	"	"			Blackboard	Drawing.

On the 11th October, a second examination was held for those who were not successful at the examination in August, when twelve teachers passed in Freehand; one in Geometry; ten in Perspective; twenty-seven in Model Drawing, and twenty-two in Blackboard Drawing.

Altogether, sixty-six full certificates, Grade B, for teaching Industrial Drawing in Public Schools and Mechanics Institutes, have been issued to teachers who attended the summer classes.

It may be supposed that only a superficial knowledge of drawing could be obtained from twelve lessons in each of the foregoing subjects, but it must be remembered that most of the teachers had received previous lessons in drawing as part of their professional education, either in the Normal School or some other Institution, and many of them had been teaching drawing for several years. The result of the examination was beyond my most sanguine expectations, and it was a great pleasure to award so many certificates, as the teachers were indefatigable in their exertions to perfect themselves in this branch of their profession; they were most industrious students, working from twelve to fourteen hours in each day. The proof of their diligence, combined with their experience, is evinced in the examination on Practical Geometry; 102 teachers presented themselves for examination in this subject, and every candidate passed; the lowest number of marks was 60%, and sixty of the students obtained the full number of 100 marks.

It is not probable that such a successful examination is known in the history of Art Education elsewhere, for we find that even in Paris, when the examination of teachers for drawing took place, about twenty years ago, on the basis of the South Kensington Training School for teachers; at the first examination, out of 171 applicants, only thirteen passed in Geometry; and at the second examination only eleven out of ninety students passed in this subject. Our Canadian students certainly had the advantage of already being familiar with Euclid in theory, and only required the further practical knowledge how to construct these figures.

As soon as it became known that many teachers had qualified themselves, the Directors of Mechanics' Institutes began to make application for teachers, and at the present time a number of Branch Art Schools in connection with Mechanics' Institutes, are in operation; this number would be considerably augmented if we could supply teachers in the districts required, several Institutes having been obliged to forego the Drawing Classes for the present for want of them.

As the Drawing Classes will be resumed next summer, it is to be hoped that there will be a sufficient number of teachers qualified to teach Industrial Drawing in all sections of the Province.

Classes will also be conducted during the holidays for those who hold Certificate Grade B. in the higher branches, or Grade A.

In a report containing the History of the Science and Art Department, issued since the establishment of these classes, I learn for the first time that similar classes have been conducted in England; special reference is made in the report to the necessity of meeting the demand for Science Teachers, consequently a system of short summer courses for teachers was organized. It commenced in 1868 by an allowance for travelling expenses to teachers to enable them to visit the South Kensington Museum and the Metropolitan Institutions. In 1869 a short course of lectures was given. In 1870 summer courses were regularly established which were fixed by the time that country teachers could spare from their holidays—about three weeks. This opportunity to improve themselves is so highly valued that annually up to 1881, only about thirty per cent. of the applicants could be accommodated. The teachers received their travelling expenses, second-class railway fare, and thirty shillings a week. The result of this was the establishment of the Normal School of Science in 1881, for imparting systematic instruction in the various branches of Physical Science for the instruction of teachers, and of students, in the industrial classes selected by competition from the examination of the Science and Art Department.

In addition to the Ontario School of Art, it was considered advisable to make other provisions for Art Education throughout the Province, and the following Institutes are now affiliated with the Ontario School of Art for examination purposes:—

1. Western School of Art	London.
2. Ottawa	Ottawa.
3. Alma College	St. Thomas.
4. Albert College	Belleville.
5. Wykeham Hall	Toronto.
6. Mechanics' Institutes	

The above Institutes are placed on a par with the Ontario School of Art, so far as examinations, certificates and awards are concerned; the same curriculum of studies is adopted; the same examination papers used; and similar certificates awarded to successful candidates in all of them.

The following medals will be awarded at the close of the season in April:—

1. A Gold Medal for the best study from the Antique in chalk, and the best ornamental design applicable to decorations of Industrial Art. Open for competition to the students of Ontario Art School and all institutes affiliated therewith.

2. A Bronze Medal for the highest number of marks on the five subjects in Grade B. Open for competition to the Ontario School of Art students, and all others, except students of Mechanics' Institutes.

3. A Bronze Medal for the highest number of marks on the five subjects in Grade B., to be competed for by the students of Mechanics' Institutes.

As will be seen from the report of the Superintendent, the Ontario School of Art is very successful, nor could room be found for all the applicants in drawing, designing and painting. I regret that we were unable to establish classes for modelling, wood carving and engraving; although circulars were issued and advertisements published, there was not a sufficient number of applicants to warrant the required expenditure.

1.—REPORT OF DR. S. P. MAY, SUPERINTENDENT OF THE ONTARIO SCHOOL OF ART.

SIR,—I have the honour to submit my report on the Ontario School of Art.

Fourth Session of the Ontario School of Art at the Education Department.

The fourth session commenced on the 30th January, 1884. The entrance examinations for the session and the closing examinations for the third session were conducted at the same time. The following is a list of the Proficiency Certificates granted:—

Elementary or Primary.—Grade B.

Freehand Drawing	25	Model Drawing	21
Practical Geometry	32	Linear Perspective	30
Blackboard Drawing	2		

Second or High.—Grade A.

Outline from the "round"	1	Shading from "round"	5
Shading from flat examples	10	Advanced Perspective	2
Drawing from flowers, etc.	4	Ornamental designs	1
Plane and solid geometry	1	Machine drawing	1
Plan drawing	1		

At the same exhibition the following Proficiency Certificates were granted to the students of Alma College, St. Thomas:—

Elementary or Primary.—Grade B.

Freehand drawing	4	Model drawing	5
Linear Perspective	2		

Representatives of the Ontario School of Art.

Hon. G. W. Allan, *Chairman of Council*; E. B. Shuttleworth, *Secretary and Treasurer*; Messrs. Arthur Cox, J. C. Forbes, R. F. Gagen, L. R. O'Brien, A. W. Patterson, James Smith.

Representative of the Education Department.

Dr. S. P. May, *Superintendent*.

Teachers of Day Classes.

Mr. Matthews and Miss Windeat (assistant)—Freehand from Flat and Model Drawing, Practical Geometry, Linear Perspective, Advanced Perspective.

Mr. Cruickshanks—Shading and Drawing from flat and round, Flower Drawing and objects of Natural History.

Teachers of Evening Classes.

Mr. Revell, with Miss Windeat and Mr. Reading as assistants—Freehand from flat, Model Drawing, Ornamental Design, Linear Perspective, Practical Geometry, Plane and Solid Geometry, Advanced Perspective.

Mr. Cruickshanks—Same subjects as Day Classes.

Mr. Dunbar—Modelling in Clay.

Teacher of Painting Classes.

Mr. Matthews—Oil and Water Colours.

Examiners.

Messrs. * L. R. O'Brien, R. F. Gagen, James Smith, E. B. Shuttleworth, Dr. May (Chairman).

PROGRAMME OF STUDIES.

Elementary Classes.—Freehand Drawing from flat examples, Freehand Drawing from models, Practical Geometry, Linear Perspective.

Advanced Classes.—Shading from flat examples, Advanced Perspective, Outline Drawing from the round, Shading from the round, Drawing Flowers and objects of Natural History.

Technical Instruction Classes.—Plane and Solid Geometry, Ornamental Design (shading from the flat and round), Linear Perspective.

Painting Classes.—Painting in Oil Colours, Painting in Water Colours.

Modelling Classes.—Modelling in Clay.

* Mr. O'Brien resigned in March, and Mr. A. D. Patterson was appointed.

Students for the Advanced Drawing Classes, and the Oil and Water Colour Painting Classes, must pass the necessary examinations. This applies to Afternoon and Evening Classes.

Students must take at least twelve consecutive lessons in any subject for which they enter, and shall take up Practical Geometry before Perspective.

Students will have access to the Art Library of the Education Department, and be allowed to copy from the paintings, sculptures, etc., in the Educational Museum.

TERMS.—Afternoon Classes—Elementary and Advanced Classes, \$6 per term of thirty-six lessons. Evening Classes—specially available for mechanics, teachers, and Normal School students, \$3 per term of thirty-six lessons.

(The fees of teachers and Normal School students were reduced to \$1.50 per term of thirty-six lessons).

The classes will be conducted as follows :—Afternoon Classes—Mondays, Wednesdays, and Fridays, from 2 p.m. to 4 p.m. Evening Classes—Mondays, Wednesdays, and Fridays, from 7:30 p.m. to 9:30 p.m.

Painting classes, \$6 per term of twelve lessons; modelling in clay, \$6 per term for Day Classes, and \$3 per term for Evening Classes.

Fees to be paid strictly in advance.

Occupation of students and purposes of study:—

OCCUPATION.	PURPOSE OF STUDY.	No. of Students
<i>Afternoon Class.</i>		
Telegraph Operators.....	Artist.....	Males.
Art students.....	Artists.....	1
No occupation.....	Improvement.....	3
		1
Governess.....	Teaching.....	Females.
No occupation.....	Improvement.....	1
		28
		17
Total.....		51
<i>Evening Class.</i>		
Architect.....	Improvement.....	Males.
Art students.....	Artists.....	1
Book-keeper.....	Improvement.....	2
Book-binder.....	Technical.....	1
Cabinet-maker.....	".....	1
Carpenter.....	".....	1
Clerks.....	Improvement.....	4
Clerk.....	Artist.....	1
Cutter.....	Improvement.....	1
Engravers.....	Technical.....	9
Jewellers.....	".....	1
Lithographers.....	".....	2
Marble-cutter.....	".....	1
Normal school students.....	Teaching.....	13
No occupation.....	Improvement.....	5
Painters.....	".....	2
School pupils.....	".....	16
Sign writer.....	Artist.....	1
Tinsmith.....	Technical.....	1
Wood carvers.....	".....	2
		Females.
Art students.....	Improvement.....	2
".....	Teaching.....	1
Music teacher.....	".....	2
Milliners.....	Improvement.....	2
Normal school students.....	Teaching.....	9
No occupation.....	Improvement.....	6
".....	Teaching.....	7
".....	Indefinite.....	2
Public school teachers.....	Teaching.....	15
Total.....		112

The Modelling Class was discontinued, there not being a sufficient number of students to warrant the necessary expenditure in connection therewith.

The teachers were paid as formerly \$4 per lesson, and the assistant teachers \$3 per lesson. The examiners were paid same fees as teachers, viz. \$4 per night.

The following list shows the number of students that passed the examination at the end of session :—

Elementary or Primary—Grade B.

Freehand drawing.....	23	Model drawing.....	28
Practical geometry.....	30	Linear perspective.....	17
Blackboard drawing.....	4		

Second or High—Grade A.

Outline from the "round".....	4	Shading from the "round".....	7
Shading from flat examples.....	5	Advanced perspective.....	7
Drawing from flowers.....	8		

FROM ALMA COLLEGE, ST. THOMAS.

Elementary or Primary—Grade B.

Freehand drawing.....	10	Model drawing.....	3
Practical geometry.....	3	Linear perspective.....	1

Second or High—Grade A.

Advanced perspective.....	3
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FROM WYKEHAM HALL, TORONTO.

Elementary or Primary—Grade B.

Freehand drawing.....	5	Model drawing.....	3
Practical geometry.....	4	Linear perspective.....	1

Second or High—Grade A.

Shading from flat examples.....	1
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REPORT OF THE TREASURER OF THE SCHOOL OF ART FOR SESSION ENDING 25TH APRIL, 1884.

RECEIPTS.	\$ c.	EXPENDITURE.	\$ c.
Balance on hand.....	56 58	Teachers' and Examiners' Fees.....	1,005 00
Students for day classes.....	302 25	Appropriation to G. Hallen.....	35 00
Students for evening classes.....	213 25	Sundries.....	7 50
Government allowance.....	552 50	Balance on Bank.....	77 08
Total.....	1,124 58	Total.....	1,124 58

Soon after the close of the session the Ontario Society of Artists resigned its connection with the Ontario School of Art, and the school is now under the direction of the Minister of Education.

As the necessity of providing increased facilities for the teaching of drawing in our Province had been frequently referred to by prominent educators, (including Dr. McLellan, who says in his Report to the Minister of Education, in December, 1883:—"I am of opinion that drawing should be taught in all the Public Schools. That the course should be continued in the High Schools—made OBLIGATORY. That evening classes of teachers in training in the County Model Schools shall receive some instruction in drawing, and the methods of teaching it. That the subject shall be so well taught in the Normal Schools that all teachers trained in those institutions shall be qualified to teach it in any County Model School or High School,") the Minister directed me to send the following circular to the Head Masters of High Schools, Principals of County Model Schools, and the Inspectors of Public Schools:—

"SIR,—The Honorable the Minister of Education having taken into consideration the importance of making Industrial Drawing a part of our educational system, has directed me to inform you that it is proposed (should there be a sufficient number of applicants) to conduct special Free Industrial Drawing Classes at the Ontario School of Art, Education Department, during the ensuing summer holidays, for the benefit of Public and High School Teachers.

These Classes will be conducted by professional Art Instructors, and will continue four weeks: the course will consist of 12 lessons on each of the following subjects:—
1. Freehand Drawing from flat examples. 2. Practical Geometry. 3. Linear Perspective. 4. Model Drawing. 5. Blackboard Drawing from memory.

At the close of the session, examinations will be held and successful candidates will be awarded certificates of proficiency.

As it is proposed to establish Drawing Classes in connection with the Mechanics' Institutes throughout Ontario, Teachers who hold certificates will have an opportunity of augmenting their salaries, and at the same time imparting technical instruction which will aid in developing the manufacturing industries and wealth of our Province.

Should any of your Teachers be desirous of attending these classes, please notify me without delay, as it is necessary to know, before final arrangements are made, whether the attendance would be sufficient to justify the outlay. Due notification of the time classes will commence will be sent to each applicant."

Toronto, 21st May, 1884.

In response to this circular 127 Teachers made application for admission, and the Drawing Classes were commenced on the 15th July.

The Public Schools, County Model Schools, High Schools, and Collegiate Institutes, were represented by 67 male, and 60 female teachers.

Classes were conducted in Freehand drawing, Model drawing, Practical geometry, Linear perspective, and Blackboard drawing.

The Teachers as students, were most assiduous in their labours to qualify themselves to teach drawing, working on an average for 12 hours per day during the whole term.

The results from this constant application were beyond the most sanguine expectations of those interested in the success of this scheme. The Classes were closed on the 15th August, when the following proficiency certificates were awarded:

Freehand Drawing	71	Linear Perspective	75
Model Drawing	48	Blackboard Drawing	56
Practical Geometry	102		

At the close of the examination a *Conversazione* with an Exhibition of Students' work was given; it was very largely attended, and the visitors passed high encomiums on the excellence of the work done during the session.

The opinions of the Students as to the amount of good derived from the establishment of summer classes for teaching industrial drawing, may be judged from the following extracts from an address presented to you by the Students at the close of the Session.

"At the present time prominence is given to Drawing in the Normal Schools, so that now all who take a course in these institutions receive a training in this subject, but the

great mass of those actively engaged in teaching were without the means of obtaining such instruction, until under your administration there was offered them the privilege of attending a special session of the Art School, at a time when they could avail themselves of its advantages; and now at its close we desire to express to you our appreciation of your efforts to promote art education, and of your thoughtful kindness in making the instruction given in these classes so freely accessible to all.

"Now that the work of Art Education has been so successfully commenced, we trust that you may see your way to continue it and to make it effective throughout the whole Province. We venture to express the opinion, that if Schools of Art instruction be established in the various county centres, to do work similar to that which has been done at this session, they would be gladly attended by many who have found it altogether impossible to come to Toronto."

A second examination was held on the 11th October, to give those an opportunity of competing for certificates who had not sufficient time to complete the whole work of the summer session, or who required more practice or manipulation.

At the examination the following certificates were granted:

Freehand Drawing	12	Perspective	10
Model Drawing	27	Blackboard Drawing	22
Geometry	1		

Altogether 66 full certificates for teaching Industrial Drawing in Public Schools and Mechanics' Institutes were awarded to the Teachers who attended the summer classes.

FIFTH SESSION OF THE ONTARIO SCHOOL OF ART AND DESIGN DEPARTMENT.

This session commenced on the 13th October. At the entrance examination the following certificates were granted:—

Freehand Drawing	3	Linear Perspective	3
Model Drawing	3	Blackboard Drawing	2
Practical Geometry	2		

The following teachers were appointed by the Minister of Education:—

Elementary and Advanced Drawing.

Principal.—Mr. W. Cruickshanks, A.R.C.A., Graduate of the Royal Academy, London, and Studio Yvon, Paris. Mr. Arthur Reading. Miss Windeat, Miss Bell Smith.

Painting in Oil and Water Colours.

Mr. A. Dickson Patterson, A.R.C.A., Art Department, South Kensington, London.

COURSE OF INSTRUCTION.

Elementary or Primary—Grade B.

1. Freehand Drawing from flat examples.
2. Practical Geometry.
3. Linear Perspective.
4. Model Drawing.
5. Memory and Blackboard Drawing.

Students must pass the necessary examinations in two of these subjects before they can be permitted to study in the advanced classes.

Second or High—Grade A.

1. Shading from flat examples.
2. Outline Drawing from the round (casts or nature).
3. Shading from the round.

4. Drawing from flowers and objects of Natural History.
5. Advanced Perspective.
6. Descriptive Geometry and Topographical Drawing.
7. Drawing from dictation.
8. Machine Drawing.
9. Building Construction.
10. Industrial Design.

Special Subjects.

1. Painting in Oil and Water Colors.
- *2. Modelling in Clay and Wax.
- *3. Wood Engraving, including Pictorial work.
- *4. Wood Carving.

TERMS :

Afternoon Classes in Drawing.—\$6 per term of thirty-six lessons.

Evening Classes in Drawing.—\$3 per term of thirty-six lessons.

Teachers and Normal School students are admitted to these classes at half rates.

Painting Classes—\$6 per term of twelve lessons.

Modelling Classes.—\$6 per term of twenty lessons.

Wood Engraving Classes.—\$6 per term of twenty lessons.

Wood Carving Classes.—\$6 per term of twenty lessons.

Fees to be paid in advance.

The classes will be conducted as follows :—

Afternoon Classes.—Mondays, Wednesdays and Fridays, from 2 p.m. to 4 p.m.

Evening Classes.—Mondays, Wednesdays and Fridays, 7.30 p.m. to 9.30 p.m.

Painting Classes.—Saturdays, 12 to 2 p.m.

Certificates and Awards.

Gold Medal for General Proficiency, presented by the Honorable the Minister of Education.

Certificates entitling the holder to teach Industrial Drawing in Public Schools will be granted to successful candidates in Grade B.

Certificates entitling the holder to teach in High Schools, County Model Schools, Mechanics' Institutes, and Industrial Art Schools will be given to successful candidates in Grade A.

Certificates for the special subjects will also be granted.

Proficiency certificates will be given for each subject, so that it will not be necessary for students to pass in all the subjects at one time.

These certificates will be valuable to mechanics and the industrial classes, being a proof of their industry, perseverance and proficiency in studies applicable to their various employments.

The certificates and awards are open for competition to students in all institutions in affiliation with the Ontario School of Art.

Purposes of the School.

The aim of the Ontario School of Art is to prepare teachers who may be required for teaching industrial drawing in Public and High Schools, Mechanics' Institutes and Industrial Art Schools; also, to provide technical instruction and art culture for persons employed in the various trades, manufactures, etc., requiring artistic skill.

The Educational Museum and Library.

The Museum, which is accessible to students for purposes of study, contains a collection of several thousand reproductions of art :—consisting of antiquities : ancient and

*These classes will not be conducted unless there be a sufficient number of applicants to warrant the expenditure therewith.

modern statuary : paintings and engravings of the celebrated masters of the Italian, German, Flemish, French and English schools ; illustrations of decorative art, including metal work, carved ivory and wood, pottery, porcelain and glass, textile fabrics, embroidery, carvings on ivory, electrotypes, etc.

The Library contains a large collection of publications on art applied to science and manufactures ; books of instruction on drawing and painting ; and illustrated books containing etchings, engravings, and wood cuts of the pictures and sculptures in the principal galleries of Europe.

The Art School Rooms are well equipped with modern art studies and appliances for the rapid advancement of students.

To prevent overcrowding, it has been decided to take only a limited number of students, who will be received in the order of their application.

The following detailed statement shows the occupation of the students in attendance in the Drawing Classes this session, and their purposes of study :

OCCUPATION.	PURPOSE OF STUDY.	No. of Students.
<i>Afternoon Class.</i>		
Clerk ...	Improvement	Males, 1
No occupation	"	2
Student	Artist	1
Music Teacher	Teaching	Females, 1
No occupation	"	20
Public School Teacher	Improvement	25
	Teaching	1
Total		51
<i>Evening Class.</i>		
Artist	Improvement	Males, 1
Architect	"	2
Art Students	"	2
Book-keeper	"	1
Carpenter	Technical	1
Cabinet Makers	"	2
Clerks	Improvement	4
Cutter	Technical	1
Engineers	"	13
Marble Cutter	"	1
No occupation	Improvement	2
"	Artists	2
"	Teaching	1
Normal School Students	"	2
Painters	Technical	3
Pattern Maker	"	1
School Pupils	Improvement	21
Sign Writer	Technical	1
Star Builder	"	3
Wood Carvers	"	3
Dress Maker	Improvement	Females, 1
Milliner	"	2
No occupation	"	10
"	Teaching	7
Public School Teacher	"	16
Total		103

It will be seen from the above that 154 students are at present in attendance on the drawing classes.

The classes of modelling, wood engraving and carving were not conducted, as there were only two applicants. It is to be regretted that mechanics and others do not avail themselves of the advantages so liberally offered them in this direction.

In the United States large sums of money are earned by students of Art Schools for this class of work.

In the day School of Art for women, at the Cooper Union, New York, the earnings of the pupils for wood engraving, painting, drawing, etc., was, \$28,932.

It is worthy of notice that we now have a systematic course of instruction in drawing. Formerly students were allowed to follow an erratic method; they selected lessons in whatever subjects they pleased, and their frequent changes made it impossible for the teachers to keep proper records of the subjects taught. It is also gratifying to know that the examinations in practical geometry have been so successful: this is probably the result of the excellence of our school system; but from whatever cause, I have no hesitation in stating that our recent examinations in this branch of industrial drawing are unsurpassed in any other country.

The importance of geometrical drawing in industrial art education is frequently referred to in the European reports on art education. In the United States it is also considered one of the most important primary branches. Walter Smith, in his instructions to teachers, says: "The study of practical art by drawing should comprehend the exactness of science by the use of instruments, as in geometrical drawing and designing. Geometrical drawing is but the interpretation and application of mathematics to industry, bringing the abstract truths of science to the concrete form of service."

The painting classes, under the direction of Mr. Dickson Patterson, are also very successful; over twenty students are in attendance. Several applicants had to be refused for want of room: some of them have entered their names and are awaiting any vacancies that may occur.

The success of these classes is probably attributable to the method of teaching introduced. Instead of the old method of copying from paintings, by which many students soon consider themselves to be artists without a knowledge of the first principles of drawing, Mr. Patterson has at the commencement adopted the course pursued at South Kensington, and has made copying from the casts in monochrome the principal study. This means that the students, whilst continuing their exercises of drawing from the round, gain at the same time an acquaintance with the handling of oil colours, and learn to draw with the brush instead of the crayon. They are trained to note the broad distinctions of light and shade in the cast, and also to note the least perceptible differences in colour, arising either from local discoloration, reflection from other objects in the room, or the color of the surrounding walls.

By this method the students gradually overcome the technical difficulties all beginners encounter at the outset, and are led to feel a reliance upon their own power of seeing correctly, and in presenting the appearance of the round object whatever it may be, whether in monochrome or full color.

The students are advanced into full color according to their proficiency.

As industrial art education is of such great importance, I have given short sketches of the work done in this direction in England, also extracts from the last official report of the Province of Quebec. Want of space prevents my referring to the many excellent drawing schools in the United States and on the continent of Europe.

ART EDUCATION IN GREAT BRITAIN.

As the Science and Art Department, South Kensington, may be said to have revolutionized the system of industrial art throughout the whole world, I have given a short historical sketch showing its formation, progress and management.

In 1835 a Select Committee of the House of Commons was appointed "to enquire into the best means of extending a knowledge of the arts and the principles of Design among the people, especially the manufacturing population of the country." The committee recommended the establishment of Schools of Design. In 1836 the sum of £1,500 was placed in the estimates for the establishment of a Normal School of Design: this school was conducted at Somerset House.

In 1841 the Government commenced giving annual grants to assist in the formation and maintenance of Schools of Design in the manufacturing districts.

In 1842 the Board of Trade took charge of these schools, but it seems to have done very little towards the general advancement of art education, for we find at the first Universal Exhibition in 1851, the principal manufactures of Great Britain were surpassed by those of other countries. This competition between different countries showed British manufacturers their true position; that notwithstanding their natural wealth of raw material, and also from their industries, the day had now arrived when they would lose their custom and their prestige as a manufacturing nation, unless they could produce goods of better finish and design.

The Government came to the rescue; the Parliamentary vote for Schools of Design was increased in 1852 to £15,055, and new principles of management were introduced. The Council of the Board of Trade was abolished, and a Department of Practical Art was constituted: the principal objects of the Department were:

1. The promotion of elementary instruction in drawing and modelling.
2. Special instruction in the knowledge and practice of ornamental art.

Examples for drawing were sold at half cost price to Elementary Schools; classes for drawing, designing, modelling, and painting, were established at Somerset House, with a systematic course of instruction for Masters of Schools of Art; special classes were also established for training designers and for technical instruction in Art; strenuous efforts were also made to establish Schools of Art in manufacturing districts at the same time, aid towards the payment of masters being given to day and evening classes for artisans.

In 1854, the pupil-teacher system was adopted, the sum of £15 being paid to each pupil-teacher. Teachers of Elementary Schools were induced to study drawing by the offer of payment by results of their instruction to pupils. In 1857, a payment of £3 for every child who obtained a prize was given to the master who had taught him. In the same year a grant of £5 was made to every teacher of an Elementary School who passed an examination in drawing.

In this year the Department and Art Training Schools were removed to South Kensington, and a regular system of inspection of Art Schools organized.

In 1862 payments on certificates to Teachers of Elementary Schools who passed examinations were abolished, and the payments to the schools were made dependent on the results of examinations.

The success which followed the establishment of training schools for Art Masters, and the encouragement of art education by training the workmen, was now participated in by the manufacturers. The Exhibition of 1862 will long be remembered by the manufacturers of Great Britain, as the time when they really achieved their first commercial victory, when they reaped the first harvest as the product of industrial art. This was an eventful year; of pride to British manufacturers, but of gloom and distrust in themselves to manufacturers of other nations; they finding that the artistic skill and design of British goods was so excellent that they were likely to supersede all others in the markets of the world.

The French manufacturers and artisans, although said to be artists from the cradle, were now in the same dilemma as England was in 1851; but the remedy was quickly found, they sent a deputation to England, visited South Kensington, and soon had a similar training system established in their own country. It is worthy of remark, however, that owing to the progress of industrial art in Great Britain, she still holds her supremacy as a manufacturing nation, even in goods of the finest finish, requiring the most superior workmanship and highest grades of artistic skill: this was evidenced at the last universal exhibition at Paris in 1878.

The Science and Art Department, encouraged by its success and usefulness, extended its operations by establishing a systematic course of training, with its centre at South Kensington, and its ramifications extending even to the smallest villages. The general influence of the Department in the advancement and progress of trade is so appreciated, that money for its support is liberally voted in accordance with its requirements, by the British Parliament. In 1882-3 the Parliamentary vote was increased to £351,400 (about \$1,750,000). I will now show the work done, and the aid given for the promotion of Art teaching in the different institutions under the direction of the Department during the past year.

1. *Elementary Day Schools.*

Grants payable on results are given by the Department to Elementary Day Schools where drawing is taught by teachers holding Art Certificates, and 767,194 children and pupil-teachers were taught drawing in 4,526 schools in 1882-3.

Annual examinations under the direction of the Department are held in these schools and payments are made on results. The subjects of examination are :

First Grade Art.

1. Drawing to scale.
2. Freehand drawing from flat examples.
3. Freehand drawing from models.
4. Practical geometry.

This examination is of a very elementary character. Children presenting themselves for examination must have been regular attendants at the school for the last 22 weeks previous to the examination. The payments to children and pupil-teachers in this grade are as follows :—

- 1s. for every exercise marked "fair."
- 1s. 6d. for every exercise marked "good."
- 2s. 6d. for every exercise marked "excellent."

Second Grade Art.

1. Freehand drawing from flat examples.
2. Freehand drawing from models.
3. Practical geometry.
4. Perspective.

Teachers of Public Elementary Schools are also required to pass in

5. Blackboard drawing.

The second grade examinations are of a considerably higher standard than the first grade.

The payments in the second grade are as follows :—

- 5s. for every exercise in which a child passes.
- 10s. for every exercise in which a pupil-teacher or monitor passes.

501,697 children and 9,599 pupil-teachers were examined in 1882-3.

The total amount paid on results to Elementary Day Schools in 1882-3, was £28,334.

Prizes are also given to every child whose work on the first grade reaches the standard of excellence : also, a 2nd grade prize to children, pupil-teachers and monitors who excel in the 2nd grade.

These schools are also aided by the Department with a grant of 50 per cent. of cost for the purchase of drawing examples.

2. *Training Colleges for Teachers.*

These colleges are intended for preparing students to become certificated teachers in Elementary Schools. The subjects for examination are the same as those required by the Ontario School of Art for teaching Industrial Drawing Grade in Public Schools and Mechanics' Institutes, viz. :—

1. Freehand drawing.
2. Practical geometry.
3. Perspective.
4. Model drawing.
5. Blackboard drawing.

Examinations are held in November, and payments of 10s. are made for each subject passed : students passing in all five subjects are entitled to an elementary school teacher's

certificate, which qualifies them to earn the payments conditionally made to the managers of elementary day schools, on account of the teaching of elementary drawing: prizes are also given to students who excel in these examinations.

In 1882-3, there were forty-eight training colleges, with 3,476 students in training, and 828 teachers and pupils of elementary schools, examined. 819 candidates received certificates to teach second grade drawing. The total amount paid on the results of this examination was £1,246.

Grants of 50 of cost are also made to training colleges for the purchase of examples approved of by the Department.

3. *Unaided Schools and Private Students.*

In 1882-3, examinations were held for prizes and certificates in 143 schools unaided by payment from the Department: 1,570 pupils in the first grade, and 3,029 in the second grade were examined: in addition to those pupils of schools, 6,200 candidates belonging to no school were also examined: altogether 10,799 candidates: 3,886 were successful, and 884 obtained prizes at a cost of £403.

4. *Art and Science Classes.*

These classes may be held in Mechanics' Institutes, schools or other educational institutions complying with the rules of the Department, and are intended for teaching drawing, modelling, etc., to mechanics, artisans: no person is admitted under twelve years of age. The rules are stringent as to premises, good conduct, supervision, etc.

These classes are conducted by a qualified teacher at least twenty-eight times during a session, and for at least one hour at each lesson.

There were 499 Art classes in 1883, with 26,244 students. The examinations in second grade were attended by 11,761 students: out of these 3,929 were successful, and 883 obtained prizes: in addition, 173 students took prizes for works sent up for inspection.

Local examinations are held, and 10s. is paid for each subject passed in the second grade: freehand geometry, perspective and model drawing. Payments of £2 10s., and £3 are also made for each subject passed in the third grade: drawing from ornaments, antique; life; painting on monochrome, etc. Payments up to £2 per student are also made according to merit, for work sent up for examination, and of £1 for elementary modelling.

The total amount paid to Art classes in 1882-3, on the result of Art examinations, was £7,133.

5. *Schools of Art.*

These schools are for advanced Art education: at least 120 lessons of two hours each must be given. The following is a list of the stages of instruction:

1. Linear drawing by aid of instruments.
2. Freehand outline drawing from flat examples.
3. Freehand outline from the round.
4. Shading from flat examples.
5. Shading from the "round" or solid form.
6. Drawing the human figure, etc., from copies.
7. Drawing flowers, objects of natural history from copies.
8. Drawing the human figure, etc., from the "round" or nature.
9. Anatomical shades.
10. Drawing flowers, objects of natural history, etc., from nature.
11. Painting ornaments from flat examples.
12. Painting ornaments from the cast, etc.
13. Painting (general), from flat examples.
14. Painting (general), direct from nature.
15. Painting from nature groups of still life, etc.
16. Painting the human figure, etc., in monochrome from casts.
17. " " " in color.
18. Modelling ornaments.

19. Modelling the human figure or animals.
20. Modelling fruit, flowers, etc., from nature.
21. Forming sketches in clay of the human figure, etc., from nature.
22. Elementary design.
23. Applied designs, technical or miscellaneous studies.

The twenty-three subjects are divided into six groups.

Local examinations are held in May. The payments are as follows : 10s. for each subject in second grade ; £3 for every exercise marked "excellent," and £2. 10s. for every subject marked "pass" in third grade ; £1 for elementary modelling ; £2 for excellence of work sent up for examination ; £3 for every artisan who shall have been two years in a School of Art, recommended by the Local Committee and Departmental Examiners ; £15 for an Art pupil teacher in which twenty students of the industrial classes are taught, and £30 for the pupil teacher in which fifty or more such students are satisfactorily taught ; £5 for every student, being, or intending to become, an art workman, or a designer for manufactures, who shall obtain a national scholarship.

The number of Art Schools in 1883 was 177, with fifteen branch classes ; total number of students, 35,909. At the annual examination, 22,200 students submitted 226,415 drawings and models ; 6 072 were successful, and 1,760 obtained prizes.

Fees for instruction are paid by the students, which vary for industrial students in different localities according to rate of wages, etc. When there are two schools in a town they are not allowed to lower the fees to compete with each other.

The amount of fees paid by students in 1883 was £38,594, and the payments in results, by the Department, amounted to £19,243. A limited number of Art School students receive national scholarships in the National Art Training School, with a weekly allowance of from £1 to £2 for maintenance and scholarships. The Princess of Wales scholarships of the value of £25 and £11 respectively, are open for competition to women students.

6. *Night Classes or Branch Art Schools.*

Night classes meet after 6 p.m. for teaching drawing, modelling, etc., to industrial students ; these classes must meet under the instruction of qualified masters, with lessons of two hours each, three times a week for forty weeks in the year. The students of these classes have the same awards as regular Art School students. At the examination of Art Schools in 1883, no less than 19,082 students belonged to the industrial classes.

7. *National Art Training School.*

This school is conducted at South Kensington for training Art teachers, designers and Art workmen, including those who are aided by scholarships gained in Schools of Art. In addition to the sum of £5 given for a scholarship, students in the Training Schools receive a weekly allowance of from £1 to £2 per week for maintenance, also allowances up to £1. 15s. 0d., to enable them to obtain certificates for teaching advanced subjects, or to study the subjects in the Museum with a special view to their application to industry.

In 1882-3 the number of students in training to become Art teachers was thirty four, and seventeen were studying as designers or Art workmen ; twenty-five of these students obtained certificates qualifying them to earn payments from the Department as teachers in Schools of Art. The students of the school won three gold, twenty-three silver, and thirty bronze medals, with thirty-six Queen's prizes in the national competition, and 130 third-grade prizes for works sent in for examination.

Three scholarships of £50 a year are offered for competition to these students.

The total number of students in attendance at the day and night classes was 710 ; the fees amounted to £2,987.

8. *Grants for Special Purposes.*

1. Ten pounds may be paid to each School of Art for holding examinations.
2. The Head Master in charge of an art class is allowed a payment of £5 on taking the certificate for first group in the third grade.

3. Teachers in charge of Art Schools, by taking certificates for advanced instruction, receive from £15 to £30 each.
4. Grants are made to enable a limited number of masters and students of Schools of Art to visit the South Kensington Museum and other Metropolitan Institutes, and, in special cases, foreign towns, schools and galleries.
5. Grants of fifty per cent. of cost is made to art schools and classes for the purchase of art examples: the Department holds a lien on them for five years, after that time they become the absolute property of the school: if the school closes before the end of five years, the committee has the option of transferring them to another school, returning them to the Department, or purchasing them, by paying the sum granted by the Department less one-fifth for each year the examples have been in use.
6. A grant of 2s. 6d. per superficial foot of internal area, up to a maximum of 4,000 feet, is made in aid of new buildings for Schools of Art.

9. Prizes.

In addition to the prizes already enumerated, medals and national prizes are awarded for excellence of work.

There is an annual national competition open to all the Schools of Art and art classes in the Kingdom; twelve gold, thirty, silver, and sixty bronze medals being offered for competition. Two scholarships are also awarded, called "the Princess of Wales Scholarships," of the value of £25 and £11 respectively, to the two women who take the highest prizes for the year in the national competition.

Total Results.

The grand totals of persons who have been taught drawing, painting and modelling through the agency of the Department, have been as follows:—

1882	1882	1883
917,101	909,216	843,135

The cost of teaching 767,194 children and pupil teachers in 1883 was £27,001, 14s. 3d., and the cost of teaching 61,933 students in Art Classes and Art Schools was £24,052, being equivalent to about \$12 per annum for each student.

ART EDUCATION IN THE PROVINCE OF QUEBEC.

Free Evening Drawing Schools are conducted in the Province of Quebec, under the direction of the Council of Arts and Manufactures. These schools are maintained by apportionments from a special sum of \$10,000 voted by the Legislature for that purpose. The amounts paid to each school are from \$150 to \$1,700. In 1882 there were fifteen schools in operation, and the following table shows the subjects taught and number of students:

12	Schools taught, Freehand drawing to	350	students.
1	" Object drawing to	36	"
19	" Architectural and mechanical to	345	"
1	" Modelling to	10	"
2	" Ladies' class to	27	"
5	" Geometrical and mechanical to	148	"
1	" Industrial drawing to	33	"
1	" General class to	31	"

The total number of students in attendance in 1882, in the different Drawing Schools throughout the Province was 862, with an average attendance of 443, slightly over fifty per cent.

The Secretary frequently refers in his report to the difficulty of procuring efficient teachers. He says: "The main difficulty with which we still have to contend is the want of properly qualified teachers; we cannot hope to see the difficulty overcome till Normal Schools have a regular course in drawing, and give such instruction as will enable all teachers who obtain certificates to instruct in drawing, as in other branches." "The Sorel school was not opened, owing to the difficulty of securing suitable accommodation and an efficient teacher." The secretary recommends that in future no new schools be established, unless the following requirements are complied with.

1. That the need for a free evening drawing school exists, and that the popular feeling calls for it and gives promise of hearty support.
2. That the place should contain a certain number of inhabitants, say at least 3,000; and that it should be a place where manufacturing industries are established.
3. That the services of an efficient teacher of drawing should be available.
4. That the locality asking for the establishment of a school should agree to provide and fit up comfortable rooms for the purpose, and provide the heat, light and requirements.

The Montreal School of Art and Drawing is now carried on in the building formerly used by the Geological Department, the Council paying \$700 per annum rent for school and offices.

Toronto, 31st December, 1884.

2. REPORT OF THE WESTERN ONTARIO SCHOOL OF ART AND DESIGN, LONDON.

SIR,—On behalf of the Board of Directors of the Western School of Art I have the honour to submit the report of the school for the year ending the 31st of December, 1884.

The school opened for the first term in January, with seventy pupils for the evening classes, and with forty-seven pupils for the afternoon classes; the second or summer term commenced in April with eighty pupils for the evening, and thirty-six for the afternoon classes.

On the 30th of August, a meeting of the Board of Directors was held to confer with Dr. May, the Superintendent of the Board of Education, who was appointed by the Minister to meet the Board of Directors, in reference to the advisability of affiliating with the Ontario School of Art.

The following proposals were received from Dr. May, and by a unanimous vote of the Board were adopted.

"The school to adopt the same curriculum of study as that of the Ontario School of Art.

"The terms of study to be of the same duration and to run concurrently. Each term to consist of thirty-six lessons of three each week, the fees for the same to be \$3.

"Examinations to take place at the same time and from similar examination papers. The papers to be sent here, and placed in the charge of some one appointed by the Department of Education, who will take charge of the pupils here, and forward the papers to Toronto for examination.

"The school to receive the same advantages as the Ontario School of Art in reference to certificates, awards, medals, etc."

The winter term opened on October 13th, under the above arrangement, the same curriculum of studies having been adopted and are being carefully carried out.

The number of pupils entered was ninety for the evening, and thirty-nine for the afternoon classes, the latter classes being principally devoted to painting in oil and water colours, and modelling in clay.

The following are the number of pupils studying in the primary, or grade 13:

1. Freehand drawing	68
2. Practical geometry	74
3. Linear perspective	60
4. Model drawing	68
5. Memory drawing	30

NUMBERS IN GRADE A.

1. Shading from flat examples	10
2. Outline from the round	6
3. Shading from the round	5
8. Machine drawing	6
9. Building constructions	6
10. Industrial design	3
11. Modeling in clay	21

The number of pupils in the porcelain painting class during the year was thirty six.

It is very gratifying to both Directors and teachers to know that the pupils have entered very heartily into the new arrangement, and are willing and also desirous to conform to the rules, as well as anxious to secure the benefits that may be derived from such source of study.

In the following report of the Secretary-Treasurer will be found the details of the receipts and expenditure in connection with the school during the year:

Receipts.

Balance on hand January 1st, 1884.	\$113 60
Fees from pupils during the year.....	843 25
Government grant	1000 00
Interest on deposits	17 48
	<hr/>
	\$2974 33

Disbursements.

Rent, fuel, light and attendance	\$250 00
Tuition, four teachers.....	1355 00
Secretary-Treasurer's salary	75 00
Printing and advertising	37 65
Studies, models, etc.	206 00
Fittings and furniture	261 14
Repairs of models, etc.	18 00
Sundry accounts.....	85 25
Stationery, postages, etc.	8 00
Insurance	12 00
	<hr/>
	2308 04
Balance	666 29
	<hr/>
	\$2974 33

CHAS. CHAPMAN,
Secretary-Treasurer.

London, December 30, 1884.

5. REPORT OF THE ART ASSOCIATION OF OTTAWA.

SIR,—The Association was founded in 1879, and incorporated in 1883. It has been affiliated to the Ontario Government School of Art during the present year.

The objects of the Association, as expressed in its constitution, are:—"1st. The establishment and maintenance of a School of Art and Design in the City of Ottawa. 2nd. The execution of such schemes as may be found most expedient for the cultivation of art and artistic taste, and for providing a market for the work of the students of its school."

The affairs of the Association are managed by a board elected annually. The following are the officers for the current year, 1884-5 :—

President Mr. Allan Gilmour : 1st. Vice President—Lieut. Col. B. Chamberlin, C.M.G. ; 2nd Vice-President—Dr. Hamnett Hill ; Treasurer—Mr. J. W. Harper ; Secretary—Mr. F. A. Dixon.

Executive Council.—Dr. J. A. Grant, F.G.S. ; Mr. F. A. Wise, C.E. ; Mr. J. W. H. Watts, R.C.A. ; Mr. F. Checkley ; Mr. J. F. Whitevese, F.G.S. ; Hon. Justice Gwynne ; Mr. Thomas Fuller, R.C.A. ; Mr. Herbert O'Meara ; Mr. J. R. Armstrong ; Mr. Achille Frechette.

His Excellency the Marquis of Lansdowne is Patron of the Association.

The society owns convenient and spacious premises and school-rooms, well supplied with casts and necessary fittings.

The school session lasts for six months in each year.

The number of the students of the school has steadily increased from eighteen in 1879, to 114 in the session 1883-4. For the session now in progress, which opened on the 1st of October, 1884, the number of students on the books, so far, is sixty-two.

The subjects embraced in the school course comprise oil and water colours, drawing from life, both draped and nude figures, and the subjects specifically adopted by the Ontario Government School of Art as constituting its course of instruction.

At the beginning of the current session of the school, a subsidy of \$300 was granted by the Provincial Government. Prior to that date, the operations of the society were conducted entirely by means of private benefactions and the fees derived from the students. Amongst such benefactions it should be stated there was the sum of \$1,000 given by H. E. the Marquis of Lorne, and H. R. H. the Princess Louise.

Though not under subsidy for the year 1883-4, it may be mentioned that the Association expended for school maintenance for that year, \$1,327.08.

Classes were held each morning from ten till one, and each evening from seven till ten, also on Wednesday and Saturday afternoons from two till four.

The teaching staff consists of three : the headmaster and two assistant teachers, besides a lecturer on artistic anatomy.

The fees charged are, per month, night industrial Art and Design, \$1 ; Elementary Classes, \$2 ; Advanced (including life, oil and water colors, \$3.

Ottawa, Dec. 31st, 1884.

FREDERICK A. DIXON,

Secretary.

4. REPORT OF THE ONTARIO SOCIETY OF ARTISTS FOR THE YEAR ENDING MAY 1st, 1884.

SIR, —On behalf of the Executive Council I have pleasure in laying before you the report :—

Membership.—During the year two names have been added to our roll of active following members.

Life Class.—The Life Class, commenced in the winter of '82-3, has been continued throughout the past winter, and has been a source of pleasure and profit to those able to attend. It is with pleasure we report that the Council of the Royal Canadian Academy has provided a further grant of \$100 towards the maintenance of this class.

Exhibitions.—Our last exhibition was merged in that of the Royal Canadian Academy, and was held in the rooms of the Education Department, kindly lent by the Ontario Government. The works exhibited showed a marked improvement, and elicited many expressions of approval from the visitors, especially from His Excellency and the Princess Louise.

The Art Department of the Industrial Exhibition was again under the management of the Society, and it is gratifying to know that the exhibit was the most successful ever made in connection with that institution.

Sales.—Two auctions have been held in our Gallery. One by Mr. T. M. Martin, previous to his departure from the country, and another by a number of the other members of the Society.

School of Art.—The Council appointed by the Society for the management of the School of Art has done its duty another session; with what success will be shown by the report of Mr. Shuttleworth, Secretary to the Council of the School.

Art Union.—With regard to the working of this important agency for the dissemination of Art among the people, I would respectfully refer you to the report of the Hon. G. W. Allan, chairman of the committee.

Secretary.—During the year our Secretary, Mr. Geo. Hallen, resigned his office, and we would take this opportunity of acknowledging his faithful and courteous services. In Mr. Jardine, his successor, we hope to find not only an enthusiastic lover of Art, but also an energetic promoter of the interests of the Society.

Financial.—In laying before you the accounts for the year, I trust that the economical management of the Executive Council will meet with your approval.

Statement of Receipts and Expenditure.

RECEIPTS.

Balance of Assets, 1st May, 1883, brought forward	\$664 55	
Grant from Ontario Government	500 00	
Members' annual subscriptions	490 00	
		<hr/> \$1,654 55

EXPENDITURE.

Salaries	\$402 67	
Rent	348 38	
Loss on Exhibition of 1883	33 00	
Heating, water and gas	74 47	
Printing, stationery, postage and general expenses	172 78	
Petty cash	20 00	
Coupons	6 00	
Repairs	25 73	
		<hr/> \$1,083 03
Balance in favour of the Society		<hr/> \$571 52

PROVIDENT FUND.

Statement of Receipts and Expenditure.

RECEIPTS.

Balance 1st May, 1883, brought forward	\$767 35	
Interests on deposits	25 39	
		<hr/> \$792 74

EXPENDITURE.

Nil		
Balance 1st May, 1884, deposited at interest		<hr/> \$792 74

In closing this Report, I would respectfully call attention to the fact that the lease of our present rooms expires in two years. The ever increasing number of pictures sent to our Annual Exhibition, necessitates the exclusion of some we should like to exhibit, and it therefore becomes pressingly needful that the Society should, without delay, take into serious consideration the project of erecting a new building, or otherwise secure premises specially adapted to the wants of the Society.

WILLIAM REVELL,
Vice-President.

Toronto, June 15th, 1884.

5. REPORT OF THE OTTAWA LITERARY AND SCIENTIFIC SOCIETY.

SIR,—In again presenting to you a report of progress, the Council would express the opinion that in many respects the past year has been one worthy of especial notice.

In the first place, the long meditated change of premises was effected in May last. This removal has in every way met the desires and expectations of the members; the membership list alone increased by eighty-six, is sufficient evidence of the growing influence of the society, attributable, no doubt, in great part to that change.

The Treasurer's statement shows a balance to the credit of the society of \$144.46. The amount received from members' subscriptions was \$449, and the sale of lecture tickets realized \$128.00. For the library and furnishing fund a sum of \$815.00 was raised; of this \$336.12 were spent in furnishing the new rooms, and \$228.34 in adding to the library. There thus remains the very pleasing surplus of \$250.54. The library now consists of 1814 volumes, of which 234 have been added since the last annual meeting. Several newspapers, and periodicals of a standard character, have been added to the reading-room tables.

These improvements have given rise to a much more general use of both library and reading-room. It may be of some interest to mention the following special donations to the library:—Mr. Allan Gilmour, besides his already liberal contribution of two hundred dollars to the library, has quite recently added, without solicitation, another two hundred dollars, to be directed to the same purpose. This generosity has been suitably received by the Council, and the money expended in purchasing books.

Mr. W. Scott, a member of the Council, presents the last edition of the *Encyclopædia Britannica*, handsomely bound in half-calf; the forthcoming volumes will take their places on the shelves as they appear.

Mr. A. P. Anderson has presented several copies of "Punch," bound in book form. For all these kind and welcome donations, the Council would here offer the most sincere thanks of the society.

In regard to the Museum it must be noticed that a radical change has taken place. It was decided at the time of removal that this was thenceforward to assume a more strictly local character; and in this view the Curator, ably assisted by Mr. M. Gill and Mr. Ami, made a careful review of all the specimens in the cases, rejecting all that were valueless, and keeping only such as would go towards the formation of a collection of local specimens. Mr. McGill furthermore kindly undertook to determine and label a large number of the mineralogical specimens. Since the change of premises, however, no very material alterations have been made in the Museum.

The programme of lectures was carried out as nearly in accordance with the printed announcement as circumstances would admit; as two of the lecturers begged to withdraw, and only one of them procured a substitute, it follows that the programme was curtailed of one lecture.

The thanks of the Society are hereby tendered to those gentlemen whose lectures gave so much interest and instruction to their hearers.

In the matter of the evening classes the Council feel compelled to acknowledge its disappointment: in spite of the fact that the services of able instructors had been secured to conduct them, of abundant notice in the daily press, and of the merely nominal fees, they met with so lukewarm a response from the members and from the general public that the Council was obliged to discontinue them. It seems, to say the least, regrettable that in a city of this size so few people should be found willing to avail themselves of educational advantages so valuable and yet so inexpensive. It is possible that the existence of similar classes in other parts of the city may be connected in some degree with this seeming apathy. The Council has but to announce that at a recent meeting of the Society, it was moved, seconded and carried unanimously:—"That the Reverend A. F. Kemp, LL.D., be elected an honorary member of this Society."

Finally, on giving into your hands the result of the past year's work, the Council

desires to express the hope that the new position of the Society may be followed by renewed symptoms of interest and energy on the part of the members, and that the prosperity and popularity hitherto enjoyed by it may continue to increase with advancing years.

PAUL T. LAFLEUR,
Secretary.

Ottawa, 25th April, 1884.

6. REPORT OF THE INSTITUT CANADIEN FRANCAIS D'OTTAWA.

SIR, — We have the honor to inform you that the financial condition of this Institute has improved in a very satisfactory manner during the past year. The total receipts have amounted to \$2,578.33, and the expenses to \$2,562.20: of this last amount \$1,164.00 have been utilized in paying off the greater part of our floating debt.

During the year we have had on the roll 179 qualified members.

Besides its ordinary meetings, the Institute has given to the public its usual annual course of lectures, commencing in November, 1883, and terminating in March, 1884. During this course the following subjects were treated:—

1. Inauguration lecture by the President.
2. "Louis Turcotte," by Mr. Faucher de St. Maurice, M.P.
3. "Morals and Customs of the Ancient Canadians," by Mr. B. Sulte.
4. "Our Colleges and Convents," by Mr. P. Poirier.
5. "Hecternat," by the Abbé Tanguay.
6. "Capitulation of Montreal," by Mr. B. Sulte.
7. "Celebrated Musicians," by Dr. F. H. Valade.
8. "Asbestos," by Mr. N. Montpetit.
9. "Anticosti," by Mr. L. Taché.
10. "The Saint Jean Baptiste Club," by Mr. A. Lusignan.
11. "Natural History," by the Abbé Nolin.
12. "Our Strong Men," by Mr. N. Montpetit.
13. "Aerial Navigation," by Mr. Joseph L'Etoile.
14. Closing lecture by the President.

Taking both the financial condition and the increased membership, we have every reason to be satisfied with the progress made, and we have also reason to hope that in the near future our resources will permit us to re-open our drawing class which has been temporarily suspended for want of means.

L. C. PREVOST,
President.

OTTAWA, December, 1884.

REPORT OF THE CANADIAN INSTITUTE, TORONTO, SESSION 1883-84.

The Council of the Canadian Institute has the honour to lay before the members its Thirty-fifth Annual Report.

The attendance at the weekly meetings has been satisfactory, and a large number of papers have been read: these will compare favourably in average merit with those of any preceding session. In addition to the regular work of the Institute, a course of three popular public lectures on sanitary subjects was arranged for and delivered in the Library under the joint auspices of the Institute and the Provincial Board of Health: the lecturers were Dr. Oldright, Dr. Cassidy and Dr. Bryce.

The number of members has increased from 225 to 236, and a larger number than heretofore have made use of the reading-room and library. As will be seen by reference to one of the appendices to this report, the number of books and periodicals taken out by members, has nearly doubled. The number of societies with which we exchange publications

is now 140. The number of donations and exchanges received has been 800, as against 280 during the preceding year. One hundred and twenty volumes have been bound, and eighty volumes and numbers purchased to complete sets: it is much to be desired that funds should be forthcoming to bind the whole of the 700 volumes that are now awaiting the binder.

A change has been made in the method of publishing the proceedings, which, it is believed, will have the effect of rendering our transactions more acceptable to our members, without rendering them less valuable to other societies.

The Council having devoted so much attention to the Library, Reading-room, Journal and Exchanges, has not been able to put the collections in the museum in order, or increase them. This department, however, has not been altogether neglected: a few valuable skins have been stuffed, and the very handsome offer made by Mr. Brodie to furnish a collection of insects, provided the Institute supplied cases, has been accepted, and a number of cases have been placed at his disposal.

Herewith are submitted appendices, showing (1) the membership; (2) the financial condition of the Institute, which will be found very satisfactory; (3) the number and sources of the donations and exchanges; (4) the number of books and periodicals issued to members; (5) the list of periodicals subscribed for; and (6) the list of periodicals presented to the Institute, with the names of the donors.

All of which is respectfully submitted.

J. M. BUCHAN,

TORONTO, May, 1884.

President.

APPENDIX 1.—*Membership*.—Number of members, March 31st, 1883, 225; withdrawals and deaths during the past year, 25; total 200; elected during the Session 1883-84, 36; total number of members, April 1st, 1884, 236; composed of: corresponding member 1; honorary member 1; life members 17; ordinary members 217; Total, 236.

APPENDIX 2.—TREASURER IN ACCOUNT WITH THE CANADIAN INSTITUTE, SESSION OF 1883-4.—*To Summary*: balance on hand, \$689.04; annual subscriptions, \$588.00; rents, \$179.50; journals sold, \$17.25; interest on deposits, \$17.10; freight, \$1.20; total, \$1,492.09.

By Summary: salaries, \$286.47; periodicals, \$244.34; interest on mortgage, \$238.78; printing, \$222.79; fuel, \$142.23; postage, \$78.07; express, \$34.82; gas, \$42.19; furniture, \$32.80; stationery, 25.92; repairs, \$24.39; water, \$24.00; contingencies, \$14.30; taxes, \$9.49; cash in bank, \$71.50; total, \$1,492.09.

Assets.—Building, \$11,000.00; warehouse, \$720.00; ground, \$2,500.00; library, \$5,500.00; specimens, \$1,200.00; personal property, \$400.00; total, \$21,320.00.

Liabilities.—Mortgage, \$3,411.00; balance in favor of institute, \$17,909.00; total, \$21,320.00.

APPENDIX 3.—*Donations and Exchanges*.—Books and Pamphlets received from April 1, 1882, to April 1, 1883: Canadian, 30; United States, 60; Great Britain and Ireland, 100; India, and other British Colonies, exclusive of Canada, 20; Foreign, 70; Total, 280. April 1, 1883, to April 1, 1884: Canadian, 90; United States, 300; Great Britain and Ireland, 200; India, and other British Colonies, exclusive of Canada, 40; Foreign, 170; Total, 800.

The number of societies with which the Institute exchanges is 140.

The following are the principal Institutions that have supplied back numbers of their publications to completed sets: Smithsonian Institution, Essex Institute, New York Academy of Sciences, Academy of Natural Sciences, Philadelphia, Worcester Society of Antiquities Harvard University Library, Museum of Comparative Zoology at Harvard College, Connecticut Academy of Arts and Sciences, Historical Society of Pennsylvania, Peabody Institute, Baltimore, Entomological Society of Ontario, Royal Scottish Society of Arts, Anthropological Institute of Great Britain and Ireland, Cambridge Philosophical Society, Leeds Philosophical Society, Royal Geological Society of Ireland, Royal Dublin Society, Royal Colonial Institute, Royal Geographical Society, Institution of Civil Engineers, G.B., The Victoria Institute, The Linnean Society, New Zealand Institute.

Naturwissenschaftliche Gesellschaft "Isis," Dresden, The Literary and Philosophical Society of Liverpool.

NOTE. The donations presented by the above, and some others, have already been given in detail.

APPENDIX 4.—The number of books and periodicals issued to members: (1) From April 1, 1882, to April 1, 1883, 450; (2) From April 1, 1883, to April 1, 1884, 860.

APPENDIX 5. List of Periodicals subscribed for: American Journal of the Medical Sciences, Athenaeum, Atlantic Monthly, Blackwood's Magazine, Brain, British Quarterly Review, Builder, Century Magazine, Contemporary Review, Critic, Edinburgh Review, English Mechanic, Fortnightly Review, Graphic, Lancet, London Quarterly Review, Longmans' Magazine, Macmillan's Magazine, Mind, Nature, Nineteenth Century, North American Review, Popular Science Monthly, Princeton Review, Punch, Scientific American, Scientific American Supplement, Times, Weekly, Westminster Review. To the above have been added for the current year, Illustrated London News, Saturday Review, English Illustrated Magazine, Harper's Monthly Magazine, Week. The following were discontinued at the end of 1883: Builder, St. James's Gazette, Critic, Medical News.

APPENDIX 6.—Periodicals presented to the Institute, and the names of the donors: *Das Echo*, W. H. VanderSmitten, M.A.; *Le Temps*, Paris, Dr. C. W. Covernton; *Spectator*, Prof. Hutton; *Le Figaro*, for 1883, *Le Courrier de l'Europe*, for 1884, Geo. E. Shaw, B.A.

The following Officers and Members of Council were elected for the ensuing year: President, W. H. Ellis, M.A., M.B.; First Vice President, George Murray, Esq.; Second Vice President, George Kennedy, M.A., LL.D.; Third Vice-President, E. A. Meredith, LL.D.; Treasurer, John Notman, Esq.; Recording Secretary, James Bain, jur., Esq.; Corresponding Secretary, W. H. VanderSmitten, M.A.; Librarian, George E. Shaw, B.A.; Curator, David Boyle, Esq.

MEMBERS OF COUNCIL.—James Loudon, M.A., F.R.S.C.; J. M. Buchan, M.A. Alan Macdougall, C.C., F.R.S.C.; P. H. Bryce, M.A., M.D.; Daniel Wilson, LL.D., F.R.S.E., F.R.S.C.; Alexander Marling, LL.B.

CONCLUSION.

Under the foregoing heads I have presented to your Honour the Statistics of the Public, Separate and High Schools for the year 1883 (Part I); and the proceedings of the Department from 1st January to 31st December, 1884 (Part II).

In Part III are submitted the Reports of the Senate of the University of Toronto; of the Council of University College, and of the School of Practical Science; all for the academic year 1883-4. The Report of the Principal of the Upper Canada College for the same period is also appended.

In Part IV are contained the proceedings during 1884, relating to Mechanics' Institutes, the Ontario School of Art, and kindred institutions; also the Reports of Scientific Societies, including the Canadian Institute.

I have the honour to be,

Your Honour's obedient servant,

GEO. W. ROSS,

Minister of Education.

EDUCATION DEPARTMENT,

Toronto, January, 1885.

REPORT OF THE COUNCIL

OF THE

AGRICULTURE AND ARTS ASSOCIATION

OF ONTARIO

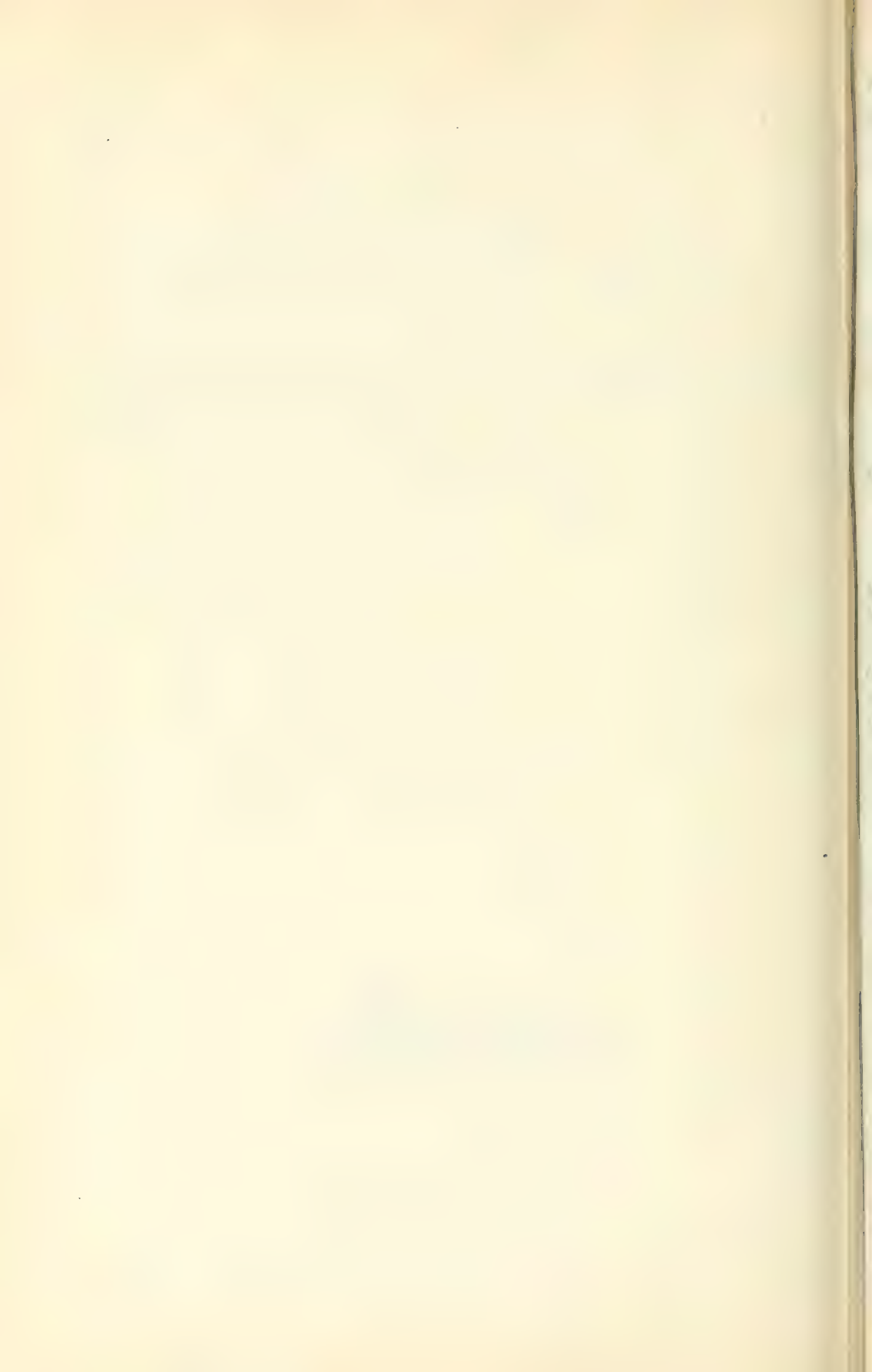
FOR THE YEAR 1884.

Printed by Order of the Legislative Assembly.



Toronto:

PRINTED BY GRIP PRINTING AND PUBLISHING CO., FRONT STREET.
1885.



To the Hon. A. M. Ross,

Commissioner of Agriculture, etc.

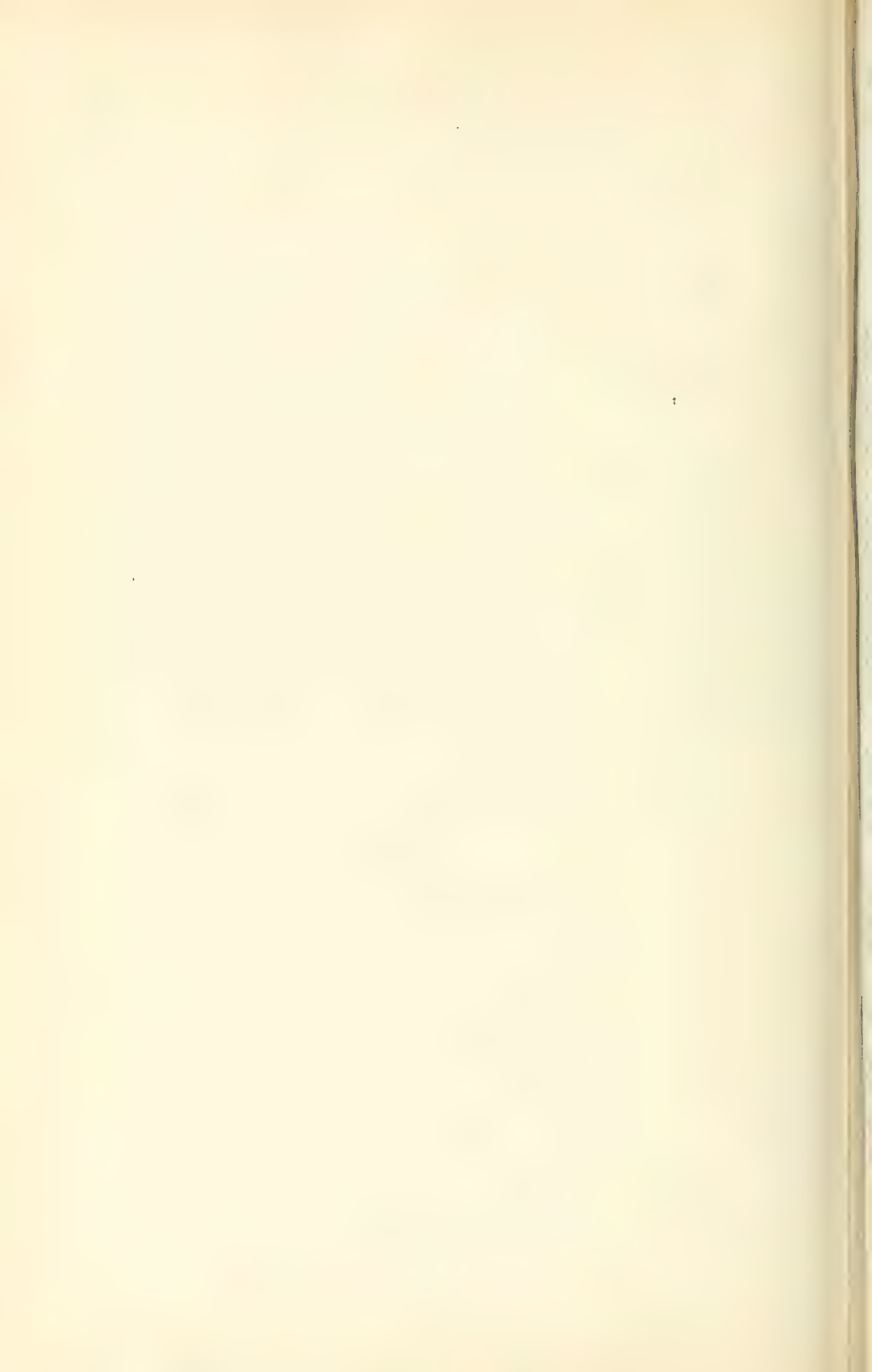
I have the honour on behalf of the Council of the Agriculture and Arts Association of Ontario, to present the Report of their proceedings for 1884, the Treasurer's Report as Audited for 1883, the Report of the Prize Farm Judges for 1884, the Essays to which prizes have been awarded for 1884, the Results and Prize Awards of the Thirty-Ninth Provincial and Dominion Exhibition, the Secretary and Treasurer's Report of the Fat Stock Show, at Guelph, and the Veterinary College for 1883-84.

I have the honour to be,

Your obedient Servant,

HENRY WADE.

Secretary of the Agriculture and Arts Association



CONTENTS.

I.

	PAGE.
Report of Annual March Meeting of the Council	9
List of newly elected members for Divisions 9, 10, 11 and 12	9
Secretaries' Report of business done in 1883	12
Auditor's Report Abstract for 1883	16, 17
Committees for 1884	19
Report of April Meeting of Council	24
Exhibition Committees for 1884	30
Fat Stock, Directors Meeting in Guelph	31
Executive Committee Meeting in Ottawa	32
Report of September Meeting in Ottawa	33
Opening Address to Sir John A. Macdonald and his reply	36
Address to His Excellency the Governor General and his reply	37
Annual Meeting in Ottawa	41
Report of Judges of Prize Farms	45
Report of Judges of Essays	46
Educational Scheme Report	46

II.

Report on Prize Farm Competition in Group 5	47
County of Victoria, Mr. John Campbell's Farm	48
County of Peterborough, W. C. D. Moor's Farm	52
County of Northumberland, Mr. Wm. Noble's Farm	54
do Mr. Sylvester E. Isaac's Farm	56
do Mr. Platt Hinman's Farm	58
County of Lennox, Mr. John Sharp's Farm	59
County of Frontenac, Mr. John Wilmot's Farm	60
Counties to which prizes will be awarded in 1885	45

III.

Essay on the Profit of Breeding, Feeding and Fattening Beef Cattle for the Market, by Thos. Shaw, of <i>L. St. Jean's</i> , Hamilton	61
Essay on the same subject, by John Campbell, jr., of Woodville	76
Essay on the best and speediest methods of destroying the Canada Thistle, by David Nicol, of Cataraqui	83
Essay on the same subject, by Walter Riddell, of Cobourg	88
Essay on the best and most speedy method of destroying quack grass, by David Nicol, of Cataraqui	92
Essay on the same subject, by Walter Riddell, of Cobourg	96
List of Examination Papers used in 1884	99
Paper on the Agricultural Resources of Ontario, prepared for the meeting of the British Association, by John Carnegie, M.P.P., of Peterborough	102

IV.

List of Premiums to Horses at Ottawa.....	109
do Cattle	117
do Sheep	131
do Pigs.....	134
do Poultry	136
do Carriages and Sleighs.....	140
do Agricultural Tools and Implements.....	141
do Agricultural Products.....	142
do Dairy Produce	145
do Horticultural Department.....	148
do Arts and Manufactures' Department	157
do Ladies Work.....	160
do Chemical Manufactures	161
do Building Materials, etc.....	164
do Cabinet-Ware, etc.....	165
do Machinery and Parts thereof.....	165
do Mechanical Metal Work.....	167
do Wearing Apparel and Furs	169
do Woollen Goods.....	170
do Groceries and Provisions	171
do Essays	171
Results Compared, of Exhibition	172
Comparative Table.....	174
Report of Superintendent of Horse Department.....	175
do Cattle Department.....	176
do Sheep do	177
do Pig do	179
do Poultry do	179
do Grain and Roots do	179
do Horticultural do	180
do Dairy do	180

V.

Report of December Council Meeting in Guelph.....	180
do Ploughing Match Committee for District No. 3.....	185
do Henry Wade, Secretary, <i>re</i> Exhibition Officials.....	188
do Joshua Legge, President, <i>re</i> Exhibits for Antwerp	190

VI.

Report of Second Annual Christmas Fat Stock Show, by Secretary	195
do do do Treasurer	216
do Judges on Essays on Fat Stock Show, by Students at Ontario Agricultural College	216
do Fat Stock Show, by T. Raynor (1st prize).....	217
do do B. Robinson (2nd prize).....	225
do do C. M. Carlaw (3rd prize).....	230
do Ontario Veterinary College, 1883-84.....	234

MEMBERS OF THE COUNCIL OF THE AGRICULTURE AND ARTS
ASSOCIATION OF ONTARIO FOR 1884.

DIVISION.		
No. 1	D. P. MCKINNON	SOUTH FINCH.
2	IRA MORGAN	METCALFE.
3	JOSHUA LEGGE	GANANOQUE.
4	J. B. AYLSWORTH	NEWBURGH.
5	JOHN CARNEGIE, M.P.	PETERBOROUGH.
6	J. C. SNELL	EDMONTON.
7	G. MOORE	WATERLOO.
8	J. C. RYKERT, M.P.	ST. CATHARINES.
9	HENRY PARKER	WOODSTOCK.
10	HUGH REID	ANNAN.
11	L. E. SHIPLEY	GREYSTEAD.
12	STEPHEN WHITE	CHATHAM.
13	CHARLES DRURY, M.P.	CROWN HILL.

EX-OFFICIO MEMBER.

HON. A. M. ROSS Commissioner of Agriculture, etc TORONTO.

OFFICERS.

PRESIDENT	JOSHUA LEGGE	GANANOQUE.
VICE-PRESIDENT	GEO. MOORE	WATERLOO.
TREASURER	GEO. GRAHAM	BRAMPTON.
SECRETARY	HENRY WADE	TORONTO.
AUDITORS {	JOHN I. HOBSON	MONBOROUGH.
	JOHN B. SMYTH	LONDON.

LIST OF COUNTIES

COMPOSING AGRICULTURAL DIVISIONS IN ONTARIO.

1. Stormont, Dundas, Glengarry, Prescott, and Cornwall.
2. Lanark, Renfrew, City of Ottawa, Carleton, and Russell.
3. Frontenac, City of Kingston, Leeds, Grenville, and Brockville.
4. Hastings, Prince Edward, Lennox and Addington.
5. Durham, Northumberland, Peterborough, and Victoria (including Haliburton).
6. York, Ontario, Peel, Cardwell, and City of Toronto.
7. Wellington, Waterloo, Wentworth, Halton, Dufferin, and City of Hamilton.
8. Lincoln, Welland, Haldimand, and Monck.
9. Elgin, Brant, Oxford, and Norfolk.
10. Huron, Bruce, and Grey.
11. Perth, Middlesex, and City of London.
12. Essex, Kent, and Lambton.
13. Algoma, Simcoe, Muskoka, and Parry Sound.

THIRTY-NINTH ANNUAL REPORT

OF THE

AGRICULTURE AND ARTS ASSOCIATION

OF ONTARIO.

THURSDAY, March 13th, 1884.

The Council met this day at two o'clock p.m., pursuant to the call of the Secretary, at their Board Rooms, in Agricultural Hall, for the purpose of electing officers, and other business for the coming year.

The Secretary took the chair, called the meeting to order, and then read a communication from Prof. Buckland, Assistant Commissioner of Agriculture, as follows:—

To Henry Wade, Secretary of the Agriculture and Arts Association:

SIR,—I beg to inform you that the following gentlemen have been elected members of the Council of the Agriculture and Arts Association for the next three years:

DIVISION No. 9.....	HENRY PARKER, Esq., Woodstock.
“ No. 10.....	HUGH REID, Esq., Annan.
“ No. 11.....	L. E. SHIPLEY, Greystead.
“ No. 12.....	CHARLES DRURY, M.P.P., Crown Hill.

I have the honour to be, sir,

Your obedient servant,

GEO. BUCKLAND,

Assistant Commissioner of Agriculture.

Upon the call of the roll, the following members answered to their names:

D. P. McKinnon, South Finch; Ira Morgan, Metcalfe; Joshua Legge, Gananoque; J. B. Aylsworth, Newburgh; John Carnegie, M.P.P., Peterborough; J. C. Snell, Edmonton; George Moore, Waterloo; Henry Parker, Woodstock; Hugh Reid, Annan; L. E. Shipley, Greystead; Stephen White, Chatham, and C. Drury, M.P.P., Crown Hill.

Not present—J. C. Rykert, M.P., detained in Ottawa by illness.

The Secretary, Mr. Wade, then explained that the election of officers was now in order, and called upon the meeting to elect a President, Vice-President and Treasurer.

On motion of D. P. McKinnon, Esq., the retiring President, seconded by L. E. Shipley, the retiring Vice-President, Mr. Joshua Legge was elected President by acclamation.

On motion of J. B. Aylsworth, seconded by Henry Parker, Mr. George Moore, of Waterloo, was elected Vice-President, also by acclamation.

On motion of John Carnegie, seconded by Stephen White, Mr. George Graham, of Brampton, was re-elected Treasurer.

The Secretary then vacated the chair, which was taken by the newly-elected President, Mr. Legge, who expressed his sincere thanks to the Association for his election,

and said he would endeavour to the utmost of his ability, to perform the duties of the office, and try to sustain the credit of the Association, and increase its usefulness.

The Secretary then read the minutes of the December meeting, which, on motion, were confirmed, and signed by the President.

Moved by Henry Parker, seconded by D. P. McKinnon, that Messrs. Drury, McKinnon and the mover, be a Committee to strike the Standing Committees for the current year. Carried.

The Secretary then read the following correspondence :

From J. P. Edwards, Secretary-Treasurer of the Toronto Electoral District Agricultural Society.

ELECTORAL DISTRICT AGRICULTURAL SOCIETY,

TORONTO, March 13th, 1884.

H. Wade, Esq., Secretary of the Agriculture and Arts Association, Toronto :

DEAR SIR, — I am requested to send you the enclosed copy of a resolution passed at a meeting of the Board of Directors of this Society, held on the 12th of March inst.

I am, dear sir,

Yours very truly,

J. P. EDWARDS,

Secy.-Treasurer.

Resolved—“That owing to the fact that the City Council of Toronto has not shewn any disposition to assist in procuring a suitable building for the holding of an annual Fat Stock Show in the City of Toronto—the efforts of the Joint Committee last year failing to secure desirable accommodation—this Society does not deem it expedient to co-operate with the Agriculture and Arts Association in the holding of a Fat Stock Show this year.”

A communication was read from Mr. Thos. Guy, of Oshawa, in reference to prizes to be awarded to milch cows. This was referred to the Executive Committee to be left over to the meeting for revival of prize list.

A letter was also read from Mr. W. S. Howell, of Simbra, suggesting that the funds raised by the Dog Tax be used by the different municipalities to establish Public School Libraries. No action taken.

A deputation from Guelph having asked for an interview with the Council,

It was moved by Ira Morgan, seconded by S. White, and resolved, That Mayor Chase, Mr. Wm. Whitelaw and Mr. John I. Hobson, of the City of Guelph, be granted permission to address this Council in connection with the next Fat Stock Show of this Province, and also in connection with the holding of the Provincial Exhibition for 1884.

Mr. Whitelaw, the President of the Fat Stock Club of Guelph, said that Mr. Hobson and himself were appointed to attend this meeting to urge that the next Fat Stock Show in connection with the Association be held in Guelph. They considered that Guelph had strong claims for it, as it was the centre of a large stock-raising district. Most of the fat stock at the Toronto Exhibition last year had come from Guelph and vicinity. Butchers from Hamilton, Toronto and London came to Guelph regularly for the purpose of getting their Christmas supply of meat, and if they had a fat stock show there this fall it would be a great convenience to the said butchers. In regard to the accommodation, they could offer the drill shed, which could be used for that purpose, and if other accommodation was required, buildings could be erected; and besides this, Guelph afforded every facility for shipping the cattle. He was satisfied that Guelph would grant all they could reasonably expect in the way of financial assistance.

Mr. John I. Hobson said, that they came down in no selfish spirit to ask the Association to hold the fat stock show at Guelph, but because it was in the interest of the principal owners and raisers of fat stock to hold the show there. There had been nothing said to them regarding the help they were to give the Association, but they might rest assured, however, that they would meet them in a liberal spirit. They would do what

was right in the matter. After holding their own show last year, they had a surplus left amounting to \$160, and that after giving large prizes. Guelph was convenient to exhibitors, to butchers, and to shippers. He was quite sure the Guelph people would be willing to meet the Association half way in the expense incurred in holding the show in Guelph.

Mr. Chase, Mayor of Guelph, said he could endorse all that had been said by the two previous speakers. He could guarantee accommodation in regard to the fat stock show. He also represented the city of Guelph in regard to the asking for the Provincial Exhibition of 1884. He was appointed to tender them an invitation for the holding of the Exhibition of 1884 in Guelph. He would guarantee them all necessary accommodation, and if they could exceed their exertions of last year there were some little matters they could increase on. He was glad to know that the last Exhibition had met with such success. It was ranked about the third in number of entries with any Provincial Exhibition ever held, which was very satisfactory to them in Guelph. He had great pleasure in tendering them an invitation to hold their next Exhibition in the city of Guelph.

It was then moved by Ira Morgan, seconded by O. Drury, That the next Provincial Fat Stock show be held in the city of Guelph, and that a grant from this Association be given for that purpose, providing the Fat Stock Club of the city of Guelph assist by granting funds for the same purpose, and upon the same terms as did the city of Toronto Electoral District Society last year.

Mr. Drury, as seconder of the resolution, said that unless Toronto could do better for them this year than they had done last year, he felt himself quite justified in seconding the motion, that the next one be held in the city of Guelph, where there was some interest manifested in it. He felt hurt for the want of interest manifested by the Council and citizens of Toronto in the show. The drill-shed would have suited them to hold the show in, but there appeared to be a lack of interest felt in the matter by those who could have procured it for that purpose. With the exception of the active part taken by the gentlemen from the Electoral District Society, who were joint directors of the fat stock show, all that was done by Toronto was done in a disposition that showed they did not care to help them, and the city did not show a public interest sufficient to warrant them holding the next show here. He seconded Mr. Morgan's motion.

Mr. J. C. Snell said that the City Council of Toronto only were to blame if the show was not held here. He was ashamed for the city that such a grand display of fat cattle had to be held in such miserable buildings, and he thought that if a proper effort had been made by the proper parties they could have got the Exhibition here this year again.

Mr. G. Moore thought they should offer larger prizes if they wanted to make the show a success. It was a matter that the Guelph people would have to consider along with them.

Mr. H. Parker said that, although he would vote for Mr. Morgan's resolution, he would not favour giving more money, for if they went to Ottawa this year they would have to expend considerable money. With what Guelph and this Association would do for the fat stock show, they could probably make a very good exhibition with the same amount of money as was expended by the Association last year.

Mr. H. Wade said, the prizes in amount exceeded what was given in Chicago in each class, and that they could offer a great many more prizes for different classes, which would not probably be taken up, noticeably for other pure bred classes besides Short Horns.

Mr. G. Moore thought they could strike off many of the prizes now given at the Provincial for fat stock and give them at this show. He thought it would be a step in the right direction, and thought that if there was any Association in the Province that ought to take the lead in public opinion, it was this, and they should spare no pains in making both the Provincial and the fat stock show a success.

Mr. C. Drury said that \$1,000 or \$1,200 did not make a very bad prize list for the present. When the fat stock show was more established they would have a larger number of visitors and larger patronage, and then they could increase the amount of prize money.

Mr. I. Morgan's motion, to hold the next fat stock show in Guelph, was then carried unanimously.

The Guelph deputation retired.

The Secretary then submitted the following report :—

To the Council of the Agriculture and Arts Association :

GENTLEMEN.—Believing that a report of the work done in the office for the past year would interest you, I have prepared a short one, which I now submit for your consideration.

Commencing with what is our principal work, taking the year round, the registration of Stock, in 1883 we recorded the following number of animals, viz :—

<i>Cattle—</i>	Males.	Females.
Short-horns	1010	1090
Ayrshires	50	133
Galloways	54	62
Polled Angus	23	45
Herefords	40	62
Devons	20	33
Jerseys	2	5
<i>Swine—</i>		
Berkshires	77	77
Suffolks	3	4
<i>Horses—</i>		
Clydesdales	30	19
	1309	1530

grand total 2,839, for which we received in fees \$1,348.50, against 2,532 entries in 1882, and \$1,672 in fees,—quite an increase.

We would, no doubt, have had more Short-horn entries, had the council not rescinded the rule that “cattle for our Provincial Exhibitions must be entered in our Herd Book,” and from the unfair way in which we are used by the friends of our opponents, in forcing and spreading the cry, “that they will not buy animals unless they are registered in the British American Herd Book” when it is a fact that two thirds, if not three quarters, of the animals in that book are in ours as well. Many of their customers were perfectly satisfied with our Book, but have been driven by that cry to enter in both. The public are apt to forget what services the old Book has done, and is still doing for them. I hope our friends will combat that cry, and explain that entries in the Old Book, under the New Standard, will do just as well.

I may also say, that our new certificates, printed in full with the caligraph, are meeting with the approbation of the public.

We have been receiving entries for a year, in our Clydesdale Stud Book, and I am pleased to say, it is taking well, and entries are coming in fast. We have also, this year, commenced registering Saire, or English Cart Horses, which will be an inducement to the public to keep both these fine classes of horses as distinct as possible.

HERD BOOKS.

The printing of which is now steady work. At the first of the year, we had just finished the 6th volume of the Canada Short horn, and immediately commenced the 7th, which was not completed until the 1st of August. We also finished, on the 16th of July, the first volume of the North American Galloway Herd Book, which was commenced in 1882. The Ayrshire Book, which was commenced in 1883, is still under way, at the Mail Office. This book has given me a great deal of work and study, as it was in a very incomplete state, and has had to be all revised, and a great deal of it re-written. I hope it will be finished in about another month.

Proof for the Herd Books requires to be twice revised in the office, and indices made out, which necessitates the writing of the names of 2,300 animals that we have in the

7th volume, and nearly double that number of Breeders' and Owners' names, and then arranging them alphabetically, not only with the first letter, but with the second, third and all letters, so you can form an idea of the amount of work spent upon them.

The receipts for Herd Books, sold in 1883, amounted to \$759.50. For stock on hand, see list of Assets and Liabilities in Treasurer's Report.

We commenced printing the Bulls of the 8th volume, Short-horn Herd Book, in November of 1883; as they are not arranged alphabetically, and the registration numbers are not changed when publishing, it enables us to get our volume out much sooner.

The Berkshire Swine men are crying out for a first volume and as we have about 500 registrations, which will be added to very largely if they hear we are going to publish, a very good sized volume might be issued at a very little expense.

I can also mention that an arrangement of a very satisfactory nature has been made since I was in Kansas City last, by Mr. David McChae, with the Galloway Breeders' Association, of America, subject to your approval, and of which association, they have elected him President—in honour of which he is well deserving; whereby they will accept our 1st volume as their standard, taking all our spare copies, and paying us \$650 for our stock and good-will. We also hand them all the pedigrees we have and can take, up to the first of May—we retaining the fees.

During the year there has been printed 50,700 copies of the various publications and circulars in connection with the work of our Department, the aggregate of pages, amounting to 1,471,000 and the number of pages of proof to be corrected, 1,102; also 25,000 cards printed for exhibition and other work.

There were awarded at the Provincial Exhibition, for prize farms and to veterinary students, 5 gold, 60 silver and 20 bronze medals; also 85 diplomas have been prepared and distributed to those entitled to receive them.

The business of the office continues to increase, about 2,500 letters, and over 1,000 post cards having been sent out.

And now a few words about our Exhibition, which we all wish to improve every year. Would it not be advisable for the Council, at this or a future meeting, to appoint Superintendents for the different live stock departments, say one for horses, one for cattle, one for sheep, one for pigs, etc., the same as the Illinois people do, making each Superintendent responsible for his own department to our General Superintendent. It would also lighten the labours of our over-worked and efficient General Superintendent, who has had too much to do, and we could make it the duty of each Superintendent to give a report of the exhibit in his department, to publish in our report to the Commissioner.

I would also suggest a uniform fee of \$1.00 for each horse, 50 cents for each head of cattle, and 25 cents for each sheep or pig, to pay for stabling, in addition to the \$1.00 member's fee now charged.

All of which is respectfully submitted.

HENRY WADE,
Secretary.

On motion of C. Drury, seconded by J. C. Snell, the Secretary's report was received, and referred to the Finance Committee.

The Secretary then read the following report:—

To the Council of the Agriculture and Arts Association:

Having examined the papers of the Toronto Fat Stock Show prepared by Students of the Ontario Agriculture College for prize competition, the undersigned have the honour to report:

1. That three Students of the College have competed for the premiums offered by the Association, viz.: Messrs. Wm. Little, W. W. Hubbard, and J. B. McKay, and that each of the papers possesses distinctive merits.

2. That Mr. Little's excels in form and method. The leading features of the Exhibition are noted, the prize winning animals are fairly described, and the advantages of fat stock shows and requirements for their success are well stated.

3. That Mr. Hubbard's is readable and popular. It is, however, deficient in arrangement, and the description of animals is mainly confined to first prize winners.

4. That Mr. McKay's presents crisp, graphic and life-like word pictures of animals, but has conspicuous faults of form and style.

Measured by the standard of general merits, the undersigned are of opinion that Mr. Little's paper is entitled to the first prize, Mr. Hubbard's to the second, and Mr. McKay's to the third. For literary merit Mr. Hubbard's paper ranks first, and for descriptive merit Mr. McKay's is first.

Respectfully submitted,

HENRY WADE,
A. BLUE.

AGRICULTURAL HALL,

TORONTO, January 16, 1884.

Moved by H. Parker, seconded by Mr. Aylsworth. That report of Messrs. Wade and Blue on the papers prepared by the students of the agricultural college of the Fat Stock Show lately held in Toronto, be adopted. Carried.

[NOTE BY SECRETARY.—The prizes were sent to the students some time ago, and the essays were published in our report to the Commissioner of Agriculture for 1883.]

THE THIRTY-NINTH ANNUAL EXHIBITION.

Moved by D. P. McKinnon, seconded by Ira Morgan. That the thirty-ninth Provincial Exhibition be held in the City of Ottawa for the year 1884, providing the city furnish the necessary accommodation.

Mr. Morgan, in seconding the motion, said that Ottawa had asked for the Exhibition last September, and they still wanted it. There was a resolution in the minute book asking that the next Exhibition be held there. He was not aware that it was necessary to procure a new resolution. The City of Ottawa had all the buildings ready the same as when the Exhibition was held there in 1879. When the Exhibition was taken to Ottawa in 1875 the promise was made that they would go back there, which they did in 1879, when the first Dominion Exhibition was held there, when it was again promised that they would go back this fall, it would be five years since they had been there, and he thought it would only be doing the eastern part of the Province justice by going there this year.

Mr. Parker said that as Ottawa had been asking them to hold the Exhibition there for three years past, if they did not give it now they would stop asking for it, and when the Association wanted to hold it there they would turn around and dictate their own terms. They should give the eastern part of the Province the advantages of the show this year. He favoured going to Ottawa.

Mr. McKinnon said that he was satisfied that the Exhibition, if held in Ottawa, would be much more successful than it was in 1879, when they laboured under many disadvantages.

Mr. Morgan said that Ottawa had now more railways opened up, viz., the Canada Atlantic and the Canadian Pacific extension, which had opened up a lot of new country, which would contribute materially towards making the Exhibition a success. He would like to see the Dominion and Provincial Exhibitions combined this year at Ottawa, and they would endeavor to have them formally opened by His Excellency the Governor-General. The people at Ottawa were anxious to get it there and would all assist in making it a grand success. The Ontario & Quebec Railway would probably also be open between Toronto and Ottawa by that time, which would also contribute to its success.

Mr. Drury said that, as Mr. Carnegie and other gentlemen were not present, he would move, seconded by Mr. Moore, That the matter be deferred till the evening session, but on a division this motion was lost.

It was then moved in amendment to Mr. McKinnon's motion by Mr. George Moore, seconded by Mr. J. C. Snell, That the Provincial Exhibition for 1884 be held in Guelph.

Mr. S. White said, when a city had expended so much money as Guelph had they should encourage them by going there two years in succession, where they would only go to some other city one year.

Mr. J. C. Snell thought the Guelph citizens had treated them well and had done everything they could for the success of the last Exhibition, and as they had not reaped much reward from it last year, they should hold it there this year. Guelph had also gone to much expense in the erection of buildings, etc., and it was owing to the mismanagement of the railway companies that it was not a greater success last year.

Mr. I. Morgan said the reasons given by Mr. Snell were very plausible ones for holding the Exhibition this year at Guelph. When Ottawa's claims had been discussed heretofore nothing had been said about that city expending \$50,000 for buildings and grounds for holding the Provincial Exhibition there, so Mr. Snell's argument for holding the Exhibition again in Guelph stood for nothing.

On resolution of J. B. Aylsworth, seconded by H. Reid, both the motion and amendment were laid over until the evening meeting of the Council.

A telegram having been read by the Secretary from Miss Rykert, at Ottawa, stating that her father was unable to attend the meeting, the Secretary was instructed to telegraph the regret of the Association to Mr. Rykert, at his illness and inability to attend the meeting.

On motion, it was decided to allow Mr. Thomas Shaw, of Hamilton, to address the meeting. He stated that he had some connection with the Thorley Horse and Cattle Feed Company of Hamilton. This Company had been offering prizes to different Agricultural Societies for some time past, but as they had been of little benefit to the Societies to which they were given, he wished now to give them in such a way that they would benefit the Societies to the fullest extent of the prizes offered. He also represented the *Canadian Stock Raisers' Journal*, numbers of which could be offered to be given as prizes by the Association at its Exhibition.

On motion of Mr. McKinnon, seconded by Mr. Drury, and resolved, That Messrs. Snell, White and Moore be a committee to confer with Mr. Shaw, as to special prizes offered by him.

The Treasurer, Mr. Graham, then submitted his report, showing that the receipts during 1883 had been \$35,254.55, the expenditure \$31,426.94, leaving a balance on hand of \$3,827.61 as per statement now submitted, including Prince of Wales' Fund: also Auditors' report.

ABSTRACT OF RECEIPTS AND EXPENDITURES, as classified by the Auditors, for the Year ending 31st December, 1883.

RECEIPTS.		DISBURSEMENTS.	
	£		£
To Cash in Bank, Current Account	6,184 16	By Cash, Prizes.	14,729 30
“ Cash, Prince of Wales’ Fund, Special Deposit	800 00	“ Salaries, Agriculture and Arts Association.	1,300 00
“ Prize Account (Special and Grants)	1,279 20	“ Herd Book, including Printing, Stationery and Expenses	82,441 00
“ Legislative Grant	10,000 00	“ Proportion of Salaries	1,260 56
“ Interest	387 94	“ Halifax Exhibits	3,701 56
“ Rent of Building	2,000 00	“ Library, Books and Binding	327 14
“ Furniture Sold	12 00	“ Postage	49 30
“ Herd Book, Sales and Registration Fees	2,608 00	“ Office Expenses, Stationery, etc.	123 75
“ Exhibition Receipts, Members’ Fees	81,225 00	“ Interest on Mortgage	39 91
“ Rent of Booths	1,100 00	“ Insurance	330 00
“ Licenses	240 00	“ Petty Cash	83 75
“ Stable Fees	377 50	“ Council Expenses, Ordinary.	34 39
“ Poultry Fees	77 50	“ Exhibition	8888 02
“ Cattle Feed sold	345 90	“ Exhibition Printing and Advertising Expenses	607 12
“ Lumber sold.	12 00	“	81,607 13
“ Licks sold	67 75	“	1,048 04
“ Catalogues sold	10 00	“ Special Grant to Gravelly	8700 00
“ Turnstiles and Gates.	8,361 60	“ Gaugers’ Percentage	298 77
Refund of Prize Money.	\$12 00	“ Miscellaneous, Brown’s Account	798 77
Error in Gate Receipts	2 00	“ Veterinary Museum	3 20
	12,017 25	“ Veterinary College, including Medals	180 50
	14 00	“ Legal Expenses	170 00
		“ Furniture	27 85
		“ Prize Farms’ Medals	100 00
		“ Ploughing Matches	192 00
		“ Building Repair Account	1,000 00
		“ Educational Scheme	81 00
		“ Fat Cattle Show.	180 95
		“ Prince of Wales’ Deposit.	500 00
		“ In Bank, Current Account.	800 00
			3,025 56
			\$35,252 55

Audited and found correct,

JOHN I. HOBS (N), Auditors.
JOHN B. SMYTH, J.

Toronto, 30th January, 1884.

STATEMENT. Assets and Liabilities of the Agriculture and Arts Association of Ontario, 31st December, 1883.

ASSETS.		LIABILITIES.	
	\$ c.		\$ c.
To Cash, Current Account.....	3,025 56	By Mortgage on Real Estate.....	5,000 00
" Cash, Special Deposit, Prince of Wales' Fund.....	800 00	" Balance due Veterinary College Museum.....	334 81
" Real Estate, corner Queen and Yonge Sts.....	30,000 00		
" Library, 1,630 Volumes.....	2,500 00		
" Herd Book, 18 Copies Vol. I. Shout Horn.....	836 00		
" " 73 " II. " " " " " "	172 00		
" " 10 " III. " " " " " "	30 00		
" " 350 " IV. Part 1. " " " " " "	525 00		
" " 362 " IV. Part 2. " " " " " "	543 00		
" " 258 " V. " " " " " "	387 00		
" " 142 " VI. " " " " " "	213 00		
" " 297 " VII. " " " " " "	310 00		
" " 227 Gallaway " " " " " "	226 00		
" Office Furniture, Sals, etc.....	227 00		
	550 00		
	839,318 56	Balance of Assets over Liabilities.....	\$33,983 75
			\$39,318 56

Audited and found correct.

JOHN L. HOBSON, }
JOHN B. SMYTH, } Auditors.

Toronto, 30th January, 1884.

To the Council of the Agriculture and Arts Association of Ontario:

GENTLEMEN,—We, your Auditors, beg leave to report that we have examined the Treasurer's books and accounts, and find them correct. There are a few cheques which have not yet been returned by the parties to whom they were sent. These amount, in the aggregate, to seventy-five dollars (\$75.00). There is also a small amount shown in the bank book in excess of the balance that appears to the credit of the Association. This sum of \$127.70 it might be difficult to trace, as it is the result of some discrepancy in past years' accounts.

The balance on hand to the credit of the Association is \$3,025.26. Also a special deposit (Prince of Wales' Fund) of \$800.00.

In conclusion, permit us to add that every facility was afforded us by your Secretary and Treasurer for making a satisfactory audit, and that we found their books kept in a correct and business-like manner.

All of which is respectfully submitted.

JOHN I. HOBSON, } Auditors.
JOHN B. SMYTH. }

TORONTO, January 30th, 1884.

On motion of H. Parker, seconded by J. C. Snell, the Treasurer's statement was referred to the Finance Committee for them to report thereon at a later date of this meeting of the Council.

Communications having been read from Mr. S. C. Stevenson, Secretary of the Quebec Provincial, and Mr. H. J. Hill, Secretary of the Industrial Exhibition, as to the time for holding the 39th Provincial, it was moved by Mr. White, seconded by Mr. Shipley, and resolved, That the next Provincial Exhibition be held in the week commencing on the 22nd of September next and lasting one week.

The Secretary read a communication from Mr. Harford Ashley, Secretary of the Eastern Dairymen's Association, as follows:—

(Copy of Resolution passed at the E. O. D. A.)

PETERBOROUGH, February, 1884.

Moved by Mr. Morgan, seconded by Mr. Vandewaters, That \$200 be granted to the Provincial Exhibition to be applied to the prize list of dairy products, providing the Provincial Exhibition is held at Ottawa next September, and if said Exhibition be held in a western city that this Association reduce said grant to \$100 for the same purpose.—Carried.

This resolution was also referred to the Finance Committee.

The subject of ploughing matches for 1884 was then introduced.

Moved by Mr. H. Parker, seconded by Mr. McKinnon, That the divisions of the ploughing matches be as follows:—

No. 1	.....	Districts 1, 2 and 3.
" 2	.....	" 4, 5, 6 and 13.
" 3	.....	" 7, 8 and 9.
" 4	.....	" 10, 11 and 12.

And that sum of \$300 be appropriated to each of the divisions above named, with the additional sum of \$300 to district No. 3, they not having held their match last year; it being understood that two matches shall be held in the last named district the present year; and that the committees for the respective divisions consist of the three members of each division; and that \$100 be added to district No. 2, same as last year.

Mr. J. C. Snell said that ploughs used at matches were not of the same style or make as ploughs used on the farms, therefore no practical good could result from these matches. He considered it a waste of money for the Association to continue them, as no particular advantage was derived from them.

Mr. Shipley thought as they had had a grant given for this matter they should con-

time it, and also as they had matches in some localities last year and none in others, it would be an injustice to those localities where no matches had been held to discontinue them this year.

Mr. McKinnon said it was the duty of the Association to encourage work of this kind on farms. It had been said that they used old fashioned ploughs at the matches, but he was of the opinion that they would come back to the old method of tilling the soil before long. He thought these ploughing matches were productive of much good.

Mr. G. Moore said in his section of the country the art of ploughing was being forgotten. It was now done in such a different style that it was difficult to get any one who could plough as well as they used to do. He knew that a man who could do fancy ploughing well could do ordinary ploughing also better than a man who could not do fancy ploughing well.

Mr. White moved in amendment to Mr. Parker's motion, seconded by Mr. Snell, That only thirteen hundred dollars be expended this year on ploughing matches, as that was the amount asked for in the estimates; and that district No. 3 receive only three hundred dollars, same as the rest.

Mr. White thought there was not the same interest taken in these matches now as there was some years ago. The grant was made last year in good faith, and as district No. 3 did not see fit to have their match, the Association ought to benefit by it to that amount.

The same objection being made to this vote being taken as to the place of holding the next Exhibition, it was postponed for the evening session.

Your Committee appointed to confer with Mr. Thos. Shaw, representing the Thorley Horse and Food Company, respecting the offer of prizes by that Company, beg leave to report that Mr. Shaw agrees to give the Association fifty dollars, to be offered as a prize for the best herd of Durham cattle, consisting of one bull and four females. Your Committee recommend the acceptance of this proposition.

Mr. Shaw as representing the Stock Journal Company also offers the Association any number of copies of the *Canadian Stock Raisers' Journal* to be offered as prizes, at the rate of fifty cents for the year's subscription. Your Committee recommend that such number of copies of the *Stock Journal* be taken as the committee on revision of the prize list deem expedient.

All of which is respectfully submitted.

J. C. SNELL.
S. WHITE.
GEO. MOORE.

March 13, 1884.

Moved by Geo. Moore, seconded by J. B. Aylesworth, and resolved, That the Council accept with thanks the handsome donation of fifty dollars, for the best herd of Durham cattle, from the Thorley Horse and Cattle Food Co., as represented by Mr. Thos. Shaw, of Woodburn.

The special committee appointed to strike the Standing Committees for the present year beg to report that they recommend the appointing of the following gentlemen, and that the first named be the chairmen, viz:—

On No. 1, Executive and Building.—Henry Parker, Woodstock; D. P. McKinnon, South Finch; Ira Morgan, Metcalfe; J. B. Aylesworth, Newburgh; Joshua Logge, Gananoque.

No. 2, Finance and Printing.—Charles Drury, M.P.P., Crown Hill; John Carnegie, M.P.P., Peterborough; Geo. Moore, Waterloo; J. C. Rykert, M.P., St. Catharines.

No. 3, Gates and Turnstiles.—Henry Parker, Woodstock; D. P. McKinnon, South Finch; Hugh Reid, Annan; S. White, Chatham; J. B. Aylesworth, Newburgh.

No. 4, Prize Farms.—J. B. Aylesworth, Newburgh; John Carnegie, M.P.P., Peterborough; Joshua Logge, Gananoque.

No. 5, Herd Books.—John Carnegie, M.P.P., Peterborough; L. E. Shipley, Grey stead; S. White, Chatham; J. C. Snell, Edmonton; Henry Wade, Toronto, Secretary.

No. 6, Fat Stock Show.—George Moore, Waterloo; J. C. Snell, Edmonton; D. P.

McKinnon, South Finch; J. B. Aylsworth, Newburgh; L. E. Shipley, Greystead; Henry Wade, Toronto, Secretary.

No. 7, Educational Scheme.—John Carnegie, M.P.P., Peterborough; C. Drury, M.P.P., Crown Hill; Prof. Mills, Ont. School, Guelph; Prof. Buckland, Toronto.

No. 8, Special Committee Appointed to Settle Claim with Government.—Chas. Drury, M.P.P., Crown Hill; John Carnegie, M.P.P., Peterborough; Henry Parker, Woodstock; Joshua Legge, Gananoque.

Moved by J. C. Snell, seconded by S. White, and resolved, That the report, including the Committees from one to five presented by Mr. Drury, be adopted.

Moved by H. Parker, seconded by D. P. McKinnon, and resolved, That Committees six and seven as presented by Mr. Parker, be adopted.

Moved by D. P. McKinnon, seconded by George Moore, and resolved, That Committee eight be adopted.

Meeting then adjourned to meet at the Railway Committee Room at the Parliament Buildings at eight o'clock.

HENRY WADE,
Secretary.

RAILWAY COMMITTEE ROOM,
PARLIAMENT BUILDINGS,
THURSDAY EVENING, 8 P.M., March 13, 1884.

The same members present as met at Agricultural Hall in the afternoon. President Legge in the chair.

The debate on the advisability of holding Ploughing Matches in 1884 was resumed from the afternoon session.

Mr. Drury moved, seconded by Mr. Carnegie, in amendment to the amendment, That no money be granted to Ploughing Matches this year excepting the sum of three hundred dollars to district No. 3, that district not having appropriated the grant of last year.

Mr. Drury, in supporting the motion, said that owing to the likelihood of our Exhibition going to Ottawa this year for financial reasons, he would not feel justified to vote the sum required for holding all the matches, but only to the one mentioned in the amendment to the amendment.

Mr. Carnegie also thought that it would be better not to use the funds asked for in the estimate to the Ontario Government this year, for the same reasons mentioned by Mr. Drury, also because the Government had not granted the full amount asked for by that estimate.

The amendment to the amendment was voted on by the Council, and declared by the President to be carried.

The debate on the next place for holding the Provincial Exhibition was then resumed.

On motion of Mr. Morgan, seconded by Mr. Aylesworth, it was resolved, That Mr. Baskerville, M.P.P. for Ottawa, be allowed to address the Council in connection with the holding of the next Provincial Exhibition in that city.

Mr. Baskerville said he believed that if the show was held in Ottawa this year it would be a success, as the citizens had obtained more experience in holding Exhibitions since the last one was held in that city.

Mr. Moore said that with the consent of the seconder he would withdraw his motion in amendment to Mr. McKinnon's motion, that the next show be held in Guelph, as it appeared to be the desire of the meeting that it should go east this year.

Mr. Snell gave his consent.

The original motion that Ottawa be the place to hold the Thirty-Ninth Provincial Exhibition was submitted to the meeting and declared carried amidst enthusiasm.

Moved by G. Moore, seconded by L. E. Shipley, That as the reports of the Agricultural College and Experimental Farm are eagerly sought after by the agricultural com-

manity, it is desirable that a larger number be printed for distribution, and that the Commissioner of Agriculture be asked to increase the number of copies so printed for that purpose.—Carried.

Moved by C. Drury, seconded by Mr. Aylesworth, and resolved, That the Council do not confine the writing of essays on the profit of breeding, feeding and fattening beef cattle to practical men, but to allow any gentleman that desires to compete.

The meeting then adjourned to Friday morning at 10 o'clock at the Agricultural Hall.

HENRY WADE,
Secretary.

COUNCIL ROOM AT AGRICULTURAL HALL,
FRIDAY MORNING, 10 A.M.

Council met pursuant to adjournment, same members present as there was in attendance yesterday. The President in the chair.

Moved by Mr. McKinnon, seconded by Mr. Shipley, That the Secretary advertise in the *Toronto Mail* and *Globe* for tenders for the printing for the Association for the coming year.—Carried.

Moved by Mr. Snell, seconded by Mr. Aylesworth, That the Council take steps to appoint an efficient superintendent on each of the classes of live stock at the Provincial Exhibition, to be subject to the General Superintendent, and to be on the ground the Friday of the week preceding the Exhibition, to properly classify and place the stock on arrival as recommended in the report of the Secretary.—Carried.

Mr. Moore thought there was too much work at present for the General Superintendent. He should be able to spend more time in his office, where he could be found by the exhibitors. They should have assistant superintendents as suggested in the Secretary's report. Assistant superintendents should be good men, who could look after their own department with skill and make a report to the Secretary of the exhibits after the show.

Mr. Parker thought that if assistant superintendents were appointed, there was danger of a conflict of authority amongst them. He gave the General Superintendent, Mr. A. H. White, credit for a great deal of tact, thought he must have a very even temper to be able to get through so much work, in spite of the many little annoyances that a man in such a position must always be subject to. If they could divide the work in any way that would ensure no conflict in authority, he thought the suggestion made by the Secretary would answer well.

Mr. S. White said that the men who would be appointed assistant superintendents should be men who knew how to do their work, and if there was any misunderstanding between an exhibitor and a superintendent it should be settled, as suggested by Mr. Wade, by the General Superintendent.

Mr. Geo. Moore thought if the General Superintendent had supreme power over the assistant superintendents there would be no trouble in the matter.

The motion then carried.

Moved by D. P. McKinnon, seconded by H. Parker, That fees be charged for entries of live stock as follows:—

For Horses.....	\$1 00 each head.
For Cattle	50 " "
Young Cattle, under one year ...	25 " "
Sheep.....	15 " "
Pigs	15 " "
Poultry	25 " "

In addition to the one dollar members' fee now charged.

Mr. Moore thought this was a move in the right direction, as besides the stables the Council gave the equivalent of one dollar members' fees in the four admission tickets.

He said that the exhibitors could well afford to pay the fee asked for, and that they might as well make the change this year as next.

Mr. Snell thought they should not increase the fees unless they could see their way clear to increase the prize list.

Other members spoke briefly on the subject, and then the motion was declared carried.

Moved by Mr. Parker, seconded by Mr. McKinnon, That another meeting of this Council be held in this city on Tuesday, the 29th of April next, for the purpose of revising the prize list, receiving the report of the Executive Committee on their visit to Ottawa, and any other business that may arise.

Moved in amendment by Mr. Drury, seconded by Mr. Snell, That this Council proceed to revise the prize list forthwith, and that whatever remains unfinished be left to a committee consisting of Messrs. Carnegie, Moore and Snell, who at their meeting consider any suggestions from the members or others.

The amendment was lost on a division, and the original motion was carried.

A letter was now read by the Secretary from Mr. Henry A. Badden, asking the Council to appoint a gentleman to prepare a paper on the agriculture of Canada, to be read before the meeting of the British Association, which is to take place in Montreal in August.

Moved by Mr. Snell, seconded by Mr. McKinnon, That John Carnegie, M.P.P., be requested by this Council to prepare a paper on the subject of the agriculture of Ontario to be presented on the occasion of the visit of the British Association to Montreal, as requested by Mr. Badden in his letter to Mr. Wade.—Carried.

The meeting then adjourned until 2 o'clock p.m.

H. WADE,
Secretary.

FRIDAY, 2 o'clock P.M., March 14, 1884.

Council met pursuant to adjournment, the President in the chair—same members present.

A copy of a part of the minutes of the Galloway Breeders' Association, held in Kansas City on the 8th of February last, was then read as follows:—

(Copy from minutes.)

KANSAS CITY, Mo., 8th February, 1884.

Upon the Board reassembling the following proposition was submitted to Mr. McCrae, viz.:—Give the eastern breeders, through Mr. McCrae, a representation of six directors: pay him six hundred and fifty (\$650) dollars within ninety (90) days, and give each director one paid up share of capital stock, and meet bi-annually at Chicago, Ill., and ratify the action taken there at a subsequent meeting at Kansas City, Missouri. Receive their pedigrees here and the books within 90 days and President Pratt would resign in favour of Mr. McCrae as Director and President, and Mr. A. B. Matthews resign as Vice-President in favour of Mr. L. Leonard, and would comply with Mr. McCrae's request that a copy of all pedigrees accepted be sent, one to himself and one to the Secretary of the Agriculture and Arts Association, Toronto, for file and safe keeping, but not for publication.

The above being put as a motion, was unanimously adopted.

M. R. PLATT,
President.

WALTER P. WEEDON,
Secretary.

This resolution was also referred to the Finance Committee.

Moved by L. E. Shippey, seconded by J. C. Snell, That the Secretary be instructed to invite the Governor General the Marquis of Lansdowne to be present and open the Exhibition at Ottawa on Wednesday, the 24th of September next.—Carried.

On motion, Mr. Weld, of the *Farmers' Advocate*, was requested to address the Council.

He said that one question that was very important and one in connection with which he had recently gone to Ottawa to enquire about, was a plan of the Dominion Government to establish a Dominion Bureau of Statistics. He thought that if a Dominion Bureau was established it would entail a great expense, and on the whole he thought it would not be advisable to have one. It had been proposed to have eight of these Bureaus stationed throughout the Dominion. He thought if they had to be established by the Dominion Government it would be better to have one grand central one. The expense of one would then be less than it would for eight, and if they did have several he thought that the cost of maintaining them would not be equivalent to the benefit that would be derived. The Department of Pestic Analyst might be experimented on with advantage to the farmers. He thought this would be an advantage. He did not think that an experimental nursery for fruit trees, seeds, etc., would be beneficial.

Mr. Legge, Chairman, said that these remarks corresponded with his own ideas on the subject.

Mr. Drury said if anything was to be done in this way it should be done by each Province running its own little farm, for what might be suitable for Ontario would not be suitable for Nova Scotia.

A discussion then took place on the advisability of importing cattle at the present time.

Mr. Shipley thought that it would not be well to prohibit importations of live stock from England, owing to disease among the live stock there.

Mr. Wells said that he had found that a ship landed in Portland had brought foot and mouth disease, which had spread very rapidly there. Whatever had been said in regard to this disease, it might be said to them to their credit, that they had kept this disease from Canada. Their country stood unsurpassed as being free from any such disease among animals. He had, he said, seen most wealthy farmers made poor in three months by diseases among their animals. They should consider what should be done to prevent this disease. Prevention was better than cure. How was it that they were allowed to go into the European markets and demand such good prices for their stock? It was because their animals were free from all diseases. People had found out that their animals were better and healthier than those they got elsewhere.

A vote of thanks was tendered Mr. Wells for the information he had given the meeting.

Mr. Drury said he had seen in the papers that foot and mouth disease was raging in the United States. If Canada ever got on the black list it would do the exporting business a great deal of harm. It would be better not to allow importations of English cattle at all if there was any danger of the disease getting into the country in this way.

Moved by L. E. Shipley, seconded by S. White, That a memorial be sent to the Dominion Government Minister of Agriculture, asking them to prohibit the importation of cattle, sheep and pigs into the Dominion of Canada until such time as the foot and mouth disease has abated in Great Britain and the United States.—Carried.

Mr. Drury then presented the report of the Finance Committee.

Your Committee beg to report, That they would recommend that from and after the 1st April next the salary of the Secretary be increased to \$2,280 per annum, out of which sum the Secretary shall pay the clerks employed in the office.

Your Committee recommend the acceptance of the offer of \$200 for prizes made by the Eastern Dairymen's Association.

Having considered the correspondence from the Chairman of the Local Committee, Guelph, in relation to a grant to that city in consideration of the large expenditure on buildings, we are very reluctantly compelled to recommend that no action be taken on account of the financial condition of the Association.

We recommend the acceptance of the offer of the American Galloway Association on the terms contained in our Secretary's report and the terms of the resolution of said Galloway Association, passed at Kansas City on the 8th February, 1884, and that out of said sum of \$600 there be appropriated \$100 to defray expenses attending negotiations for the transfer of the Galloway Herd Book to the American Association.

Sundry accounts were recommended to be paid.

We also recommend that the Treasurer's statement and Auditor's report thereon be adopted.

All of which is respectfully submitted.

TORONTO, March 14th, 1884.

CHARLES DRURY,
Chairman.

On resolution, the finance report was carried.

Mr. Drury called on Mr. Reid, the new member of the Council, to say a few words.

Mr. Reid said that he had had a great deal of work to do in his county with agricultural societies, but this was his first meeting with the members of the Agriculture and Arts Association. The different matters of the country had been attended to so well by the Association that there seemed to be nothing left to suggest. He was, he said, glad to meet all the members and hoped to be able to do some good work while he was a member of the Council.

The Association then adjourned till April.

The Council then adjourned to meet again in Toronto on the last day of April.

FRIDAY, March 14, 1884.

HENRY WADE,
Secretary.

BOARD ROOM, AGRICULTURAL HALL,
APRIL 30, 1884, 2 o'clock P.M.

The Council met this day, pursuant to adjournment, for the purpose of revising the Prize List, etc.

Members present—Legge, Morgan, Aylesworth, Carnegie, Moore, Parker, Reid, Shipley, White and Drury.

Not present—Rykert and McKinnon.

The minutes of the March meeting were read and confirmed.

The following correspondence was read by the Secretary :

OTTAWA, 14th April, 1884.

DEAR SIR,—The Government have determined to grant five thousand dollars (\$5,000) to your Exhibition, to be held at Ottawa, commencing on the 27th September next. The remainder of the Parliamentary grant will be given to the Quebec Exhibition, which will be held at Montreal.

I am, dear Sir,

Yours very truly,

JOHN A. MACDONALD.

HENRY WADE, ESQ.,
Secretary, Agriculture and Arts Association, Toronto.

GOVERNMENT HOUSE,
OTTAWA, 28th April, 1884.

DEAR SIR,—I am desired by His Excellency to acknowledge the receipt of yours of the 10th inst., and to tender his thanks for the copies of your annual report, which you have kindly presented.

Since he had the pleasure of an interview with the members of the Committee of your Association, His Excellency has given his attentive consideration to their request that he should open the Exhibition to be held at Ottawa at the end of September next.

It would, for many reasons, have been agreeable to His Excellency to do this; he fears, however, that there is no chance of his being in Ottawa at the time mentioned.

He has, as you are aware, engagements at the beginning of the month in connection with the visit of the British Association, and he hopes, after these have been fulfilled, to

be able to make a short tour in another part of the Dominion. If this were to be postponed until the month of October His Excellency fears that he would lose some of the best weather for seeing the country, which, as you can well understand, he wishes to do under the most favourable circumstances.

Although it will be out of His Excellency's power to attend the meeting of the Association this year, he hopes on some future occasion to have an opportunity of being present at its Exhibition.

Yours faithfully,

MELGUND.

HENRY WADE, Esq.,

Secretary, Agriculture and Arts Association, Toronto.

Moved by Mr. Carnegie, seconded by Mr. White, That, in view of the fact that His Excellency the Governor General will be unable to open this year's Exhibition, the Right Hon. Sir John A. Macdonald, Premier of the Dominion, be asked to open the Grand Dominion and Thirty-ninth Provincial Exhibition on Wednesday, the 24th of September, in the city of Ottawa.—Carried.

Moved by J. B. Aylesworth and seconded by Hugh Reid, That the thanks of this Council be presented to the Right Hon. Sir John A. Macdonald and the members of the Dominion Parliament for the grant of the sum of \$5,000 to aid the increase of premiums to be given at the Provincial Exhibition this year, and to make it partake of a Dominion character; and that the Secretary be requested to send a copy of this resolution to the Dominion Premier.—Carried.

Professor Mills, Principal of the Guelph Agricultural College, obtained permission to address the Council on the importance of a good agricultural education to farmers' sons. He said he was very much in favour of the scheme proposed of having examinations or competitions on agricultural subjects. More education was much needed on that subject by the farmers, and the encouragement of studies in their winter evenings would do a great deal of good. There were already a number of persons in the Province who undertook the teaching of agriculture, but what was needed was some practical man to go around the country and lecture. That was found to work well in England, when Professor Tanner devoted his time to it, and undertook to teach that branch of knowledge. He also gave instructions to public school teachers in agriculture on Saturdays. During last fall Professor Tanner passed through this Province, when he (Mr. Mills) and Mr. Carnegie had a conversation with him in regard to the scheme undertaken by the Association. That gentleman stated that he was constantly being sought after by intending immigrants for information about Ontario, and in order to understand the advantages of this Province he had taken the trouble to visit it. If such a man could be got to lecture throughout this Province, no doubt great good would result. It was well known that the most desirable class of immigrants did not come to this Province, and if Professor Tanner were got to lecture throughout Ontario he would be able to judge of the requirements of the country, and a more suitable class of immigrants might be sent out here. Not only was the Agriculture and Arts Association interested in the matter, but the Department of Immigration and the Minister of Education. He believed the services of Professor Tanner could be secured for a couple of months in the fall, and he did not know of any other man in the British Dominions who would likely prove of more value.

Mr. Carnegie said he understood that the cost of bringing Professor Tanner here would be about £150 sterling, including all expenses. He thought the proposition was worthy of consideration.

The matter was referred to the Finance Committee.

Mr. Carnegie then read the report of the Special Committee, as follows:

OFFICE OF THE AGRICULTURE AND ARTS ASSOCIATION,

TORONTO, May 15, 1884.

Report of Committee:

The Committee appointed to interview the Commissioner of Agriculture with reference to the claim of the Government for altering, repairing and refitting the Agricult-

tural Hall: for heating that portion of the said hall leased to Mr. Jamieson, and for heating, lighting and cleaning the offices of the Association, beg to report that they have had several conferences with the Commissioner (Mr. Ross), and they understand that he is willing to recommend a full and final settlement of all these matters upon the following terms, viz.:

1st. That this Council undertake to pay the Government the sum of \$4,000 in two instalments, the first instalment of \$2,000 to be paid in December, 1884, and the second in December, 1885, as its share of the cost of fitting up the Agricultural Hall with steam heating appliances, hoist, etc., and altering, repairing and improving the same.

2nd. That the Government will undertake to bear the whole expense of heating the premises leased by Mr. Jamieson, as called for by his lease, receiving in full payment for the same the sum of \$200 per annum, received from Mr. Jamieson by this Council therefor.

3rd. That in consideration of the payment of the before mentioned \$4,000, and in consideration of the free use of the rooms now occupied in the Hall by the officials of the Ontario Government, the Government will undertake the duty of heating, lighting and cleaning the offices therein occupied by the Association, and also direct the messenger employed in connection with their offices to discharge the duties of messenger to the officers of this Association free of charge, so long as the Government continues to occupy the rooms occupied by them.

All of which is respectfully submitted.

Signed,

JOHN CARNEGIE, Chairman.

H. PARKER.

C. DRURY.

Moved by C. Drury, seconded by J. Carnegie, That the report now read be adopted, and that the Treasurer be authorized to pay to the Provincial Treasurer the sum of \$300, being the amount due the Government on account of heating the premises occupied by Mr. Jamieson up to the 1st of August, 1884, and that such payment be made on the acceptance of the proposal of the Association by the Government.—Carried.

Mr. Parker then presented the report of the Executive Committee, or their visit to Ottawa, on April 6, 1884:

To the President and Council of the Agriculture and Arts Association:

GENTLEMEN.—The Executive and Building Committee, accompanied by the Secretary, Mr. H. Wade, and the General Superintendent, Mr. A. H. White, proceeded to Ottawa and met the committee of the City Council in the Council Chamber on the 8th instant, and after a lengthy conference with them as to whether they would furnish us the necessary accommodation for holding an exhibition at the expense of the city, we proceeded together to examine the grounds and buildings, and after a careful examination by the Superintendent and a consultation together we made a demand on the City Council for the following additional accommodation, as set forth in the Superintendent's report (which is herewith annexed), requiring 300 horse stalls, 250 cattle stalls, 150 sheep and 150 pig pens, a new building for carriages 250 feet long by 24 feet wide. The rest of the buildings and accommodations for the Exhibition are in good order, and when the enlargements are made, as recommended and asked for by this committee, the City of Ottawa will have one of the best exhibition grounds and buildings, outside of Toronto, in the Province of Ontario. The City Engineer estimated the cost of the improvements at \$5,000. The Mayor called a special meeting of the City Council for 8 p.m. that day, and the Council passed a resolution agreeing to meet our requirements with but one dissentient, and altogether treated your committee in the most liberal and kindly spirit. We called on His Excellency the Governor-General the next day at 12.30, by appointment, at the Government House, to invite His Excellency and Lady Lansdowne to attend and formally open the Exhibition on the 24th Sept. next, at 12 o'clock. His Excellency promised to give our Secretary, Mr. Wade, an answer before the 30th of April. We also called upon Sir John A. Macdonald and the Acting Minister of

Agriculture, the Hon. A. W. McLelan, in the afternoon of the second day, accompanied by Messrs. Alonzo Wright, Charles H. McIntosh, Joseph Tasse, and James Sutherland, M.P.s, and on behalf of this Council requested the Dominion Government to make us a grant of \$5,000 or \$10,000 to enable us to give increased premiums and also to make it of a Dominion character as in 1873, and to loan us the Fisheries Exhibit during the week of the exhibition, to enable us to gratify the curiosity of the many visitors to the exhibition by the sight of the world-renowned collection so ably represented at London last year by our ex-president, S. Wilmot, Esq. We are pleased to say that Sir John A. Macdonald and his Cabinet have since granted the \$5,000 asked for. We cannot close our report without recording our thanks to Messrs. Wright, McIntosh, Tasse, Sutherland, and other members of Parliament, for their great kindness and assistance in enabling us to accomplish the object of our visit, also to Hon. Senator Skead, and numbers of other leading citizens of Ottawa and adjoining counties, and the City Council for their interest and support. Your committee left Ottawa strongly impressed with the generally expressed opinion that the Grand Dominion and 35th Provincial Exhibition will be one of the most successful ever held by the Association. All of which is respectfully submitted by

April 30, 1884.

H. PARKER,
Chairman.
JOSHUA LEGGE,
JAS. MORGAN,
J. B. AYLESWORTH.

(Copy of Report of General Superintendent.)

To the President and Members of the Executive Committee of the Agriculture and Arts Association of Ontario:

GENTLEMEN. Having by your order visited the Agricultural Grounds of the City of Ottawa for the purpose of reporting to your honourable body the condition of the grounds and the improvements necessary for the holding of your Provincial show, beg leave to report:

1st. I find the main building commodious, a large octagon in the centre, 92 ft. across, with eight wings, 60 x 32 ft. each, apparently in good order.

2nd. I found 140 horse stalls 7 x 15 ft., floored and well made, also 61 stalls on the north side of the ground formerly used for cattle. I would recommend fitting up these for horses and building 100 more stalls 9 x 14 ft. for mares and foals and heavy draught stallions, each and all stalls to have a berth or head for grooms to sleep and store their food, doors to be cut square across the centre, so that the lower one can be locked and the upper one left open when required to do so.

3rd. For cattle, there is now one cattle shed with 50 stalls and 60 more stalls on the south side of grounds. You will require a new shed with 70 stalls on each side 10 x 12 ft. each, with a passage running through the centre 6 ft. wide, and fitted up with the proper mangers and feed-boxes.

4th. For sheep, there are now on the grounds 120 pens, which will require some repair, and will need to be erected 30 more pens, 8 x 10 ft. each, each pen to be provided with a proper feeding-trough.

5th. For pigs, there are a number of pens on the ground out of repair. You will require 150 in all, each pen provided with a trough for feeding.

6th. The poultry house is large and provided with coops sufficient for the accommodation of the show.

7th. There is a large Horticultural Hall, 210 x 36 ft., with two wings, 20 x 36 ft. each, which will have ample space for the exhibit in that department.

8th. There is also a good dairy building, 82 x 35 ft., which will be required to be fitted up with tables and railings to accommodate the exhibitors.

9th. For stoves I would recommend using one or more wings in the Palace, as required.

10th. For carriages, you will require a new building, 250 x 24 ft., with railing on each side of centre.

11th. I find a hay barn on grounds, one end of which will have to be fitted up with bins for holding oats, chop, etc.

12th. There will also be required a good and sufficient water supply, with troughs at the ends of stock sheds for watering.

13th. There will also be required a small tank for showing pumps; fences and water closets put in good repair, and an additional water closet built.

14th. A ring will be required to be fenced for showing horses, and six small cattle rings for showing the different classes of cattle.

I remain, your obedient servant,

A. H. WHITE.

April 7th, 1884.

(Copy of a Resolution passed by the Ottawa City Council.)

Moved by Ald. Erratt, seconded by Ald. Cunningham, and resolved, That in accordance with the terms of our letter sent to the Ontario Agriculture and Arts Association in September, 1883, asking that the Provincial Exhibition be held in this city during the present year, and the Council of the Association having agreed to hold the said Exhibition here, we hereby confirm the action of the Council for 1883, and agree to furnish the free use of Lansdowne Park during the period required for the said Exhibition proposed to be held in September next, and also the following accommodation in addition to the buildings and sheds now on the said Park, subject to the approval of their Superintendent:

Forty stables for horses.

Thirty pens for sheep.

Thirty pens for pigs.

Sheds for one hundred and forty cattle.

Shed for carriages, 250 x 24.

Suitable rings for judging horses and cattle; alteration of sixty-one cattle sheds on north side for horses; fitting up interior of dairy buildings, and the supplying of the grounds with an ample supply of water from the city works.

And this Council being of the opinion that the proposed Exhibition will to a very great degree benefit the agricultural and other interests of the surrounding counties, it is further resolved that his worship the Mayor and City Clerk be authorized to address the said counties urging upon them the necessity of their cooperating financially and otherwise with this city in order to ensure the success of the Exhibition, so as to make it creditable to Eastern Ontario, and that the City Clerk be instructed to furnish the chairman of the Executive Committee with a sealed copy of this resolution signed by the Mayor.

Certified a true copy of a resolution of the Council of the Corporation of the city of Ottawa, passed at a meeting of said Council, held on Tuesday, the eighth day of April, 1884.

CHRISTOPHER BATE,

Mayor.

Certified:

WM. P. LETT,

City Clerk.

Moved by H. Parker, seconded by Mr. Morgan, That the report of the Executive and Building Committee as read be adopted by this Council.

Mr. Weld, of the *Farmers' Advocate*, on motion, was permitted to address the Council. He called their attention to the unsatisfactory way in which the Guelph Agricultural College was conducted. Some of the stock on the farm, he alleged, had died of very bad diseases. Not long ago two animals had succumbed to tuberculosis, a disease which was under certain conditions infectious. "Fouling foot" had, he believed, also made its appearance and done considerable harm. He urged upon the Council that it

was their duty to make such representations to the Government as would relieve them of any responsibility which might naturally rest upon them as the Council of the Agricultural and Arts Association. He wished them to appoint a committee of two gentlemen from the Council to act and consult with him as to the best means to check these evils.

Mr. Parker said that this accusation was a serious matter. He for one had never heard from any other source that there had been any disease at the College.

Mr. Carnegie said that Mr. Weld had better put any charge he had to make in writing for the Council to consider upon.

Mr. Drury said that the Government gave a grant every year to pay a skilled veterinary to investigate any such matters, and if there were not such diseases as mentioned by Mr. Weld in existence on the farm, or if he did not make any special charge, the Council should not take action in the matter.

Mr. White said that Mr. Weld could at any time write to any member of the Council, who, he was sure, would do everything in his power to cooperate with him.

Mr. Snell thought that Mr. Weld had every consideration shown to him, and that the Council should not bolster him up in his charges against the College.

It was decided to take no action, on Mr. Weld's request: his charges were too vague.

A telegram was read from Mr. Rykert, saying he could not attend owing to the dangerous illness of his son.

A letter was read from A. Gifford, Secretary of the Provincial Grange, as follows:—

MEAFORD, ONT., April 26th, 1884.

H. Web, Esq., Secretary Agriculture and Arts Association, Toronto.

DEAR SIR,—I am instructed to write you relative to a day being set apart at your next Exhibition for the Grange.

Kindly say whether one will be fixed, and what terms will be given.

An early reply will oblige,

Yours truly,

A. GIFFORD.

Referred to the Finance Committee.

A letter was also read from Mr. Weld as follows:—

GENTLEMEN,—I would respectfully request that in future the time of holding your meetings might be made known to parties that might have business to bring before your Board.

Yours respectfully,

April 19th, 1884.

WM. WELD.

Moved by Mr. Carnegie, seconded by Mr. White, That the Secretary do notify the Toronto city papers and the agricultural papers published in Ontario, in order that they may publish the date if they think fit.—Carried.

Council adjourned until half-past seven.

WEDNESDAY EVENING, 7.30, 30th of April.

Council resumed business, the President in the chair.

The prize list revision was taken up and the Exhibition Committee and different Superintendents were appointed.

COMMITTEES.

Horses—Messrs. White, Moore, and McKinnon.

Cattle—Messrs. Shipley, Snell, and Reid.

Sheep and Pigs—Messrs. Snell, Aylesworth, and Drury.

Poultry—Messrs. Aylesworth, Parker, and Morgan.

Implements—Messrs. Drury and McKinnon.

Arts Department—Messrs. Carnegie and Drury.

Horticultural Products—Messrs. Rykert and Morgan.

Agricultural Products—Messrs. Parker, Drury, and Aylesworth.

Dairy Products—Messrs. Morgan, Aylesworth, and Reid.

Judges and Delegates—All the Council.

General Superintendent of the Exhibition—A. H. White, Chatham.

Superintendent of Manufacturing and Mechanical Department—E. Jackson, Newmarket.

Superintendent of Grain, Roots, and the Horticultural Department—David Nicol, Cataraqui.

Superintendent of the Dairy Department—D. D. Dryshire, Brockville.

Superintendent of the Arts Department—Thomas Hunter, Toronto.

Superintendent of the Ladies' Work Department—Mrs. Heaslip, Toronto.

Superintendent of Horses—Robert Vallance, Osnabruck Centre.

Superintendent of Cattle—E. W. Chambers, Woodstock.

Superintendent of Sheep—Horace Chisholm, Paris.

Superintendent of Swine—Robert Vance, Ida.

Superintendent of Poultry—Wm. McNeil, London.

The rest of the evening was entirely taken up with the revision of the prize list. The Council adjourned at 10 p.m. until 9 o'clock on Thursday morning, the 1st of May.

THURSDAY MORNING, May 1st, 10 o'clock.

Council resumed. Several letters in connection with the prize list were read and referred to the committees revising.

Mr. Carnegie presented the report of the Herd Book Committee, as follows:—

The Committee on Herd Books beg leave to report that they are happy to be able to state that the 8th volume of the Canada Shorthorn Herd Book is now ready with the registrations for 1883, containing the pedigrees of 1,009 bulls and 1,095 females. It is a neat volume of 550 pages, well printed, and on good paper. It is also a source of pleasure to know that although the entries only ceased at the end of December, 1883, this volume is ready by the 1st May, three months earlier than last year. This volume will be sold at \$2.50, the same as the 5th, 6th, and 7th, and no membership fee is required.

Your committee have pleasure in acknowledging the receipt of the 25th volume of the American Shorthorn Herd book, and the 29th volume of the English, or Coates, Shorthorn Herd Book since their last report in exchange for our 7th volume.

Your committee find the Dominion Ayrshire Herd Book in an advanced state. The copy is now all ready for the printer, notwithstanding that its preparation has involved much labour on the part of your secretary. They also acknowledge the receipt of the 4th volume of the American Ayrshire Record, just published.

Your committee are also much pleased with the success so far of the Clydesdale and Shire Horse Stud Registration, filling a long felt want of the Canadian farmers. As yet it has not been well advertised, but horsemen are now taking a great interest in it. The fee for registration is only \$2.

Your committee find that the transfer of the North American Galloway Herd Book to the American Galloway Association has been made. The books have been sent and

the pedigrees on hand for the second volume are now ready to be sent, as the 1st of May is the time appointed for the transfer. The payment for such transfer has been made.

All of which is respectfully submitted.

JOHN CARNEGIE,

Chairman.

May 1, 1884.

On motion of Mr. Carnegie, seconded by Mr. Drury, the report was adopted.

On motion of Mr. Aylesworth, seconded by Mr. Reid, it was resolved that Wednesday be set aside as the farmers' day, and that a percentage be given on proceeds of that day over Thursday.—Carried.

On motion of Mr. Parker, seconded by Mr. White, it was resolved that Mr. Carnegie be appointed a delegate to represent this Association at the meeting of the British Association in Montreal, also that he and Messrs. Legge and Morgan be delegates to attend the Montreal Exhibition.

On motion of Mr. Drury, seconded by Mr. Carnegie, it was resolved that the President, Mr. Legge, and the Secretary, Mr. Wade, be delegates to go to St. Louis and attend a convention of exhibition officials.

On motion of Mr. Drury, seconded by Mr. Carnegie, it was resolved that the Educational Committee be authorized to engage Prof. Tanner to deliver a series of lectures on agriculture if amount did not exceed four hundred dollars.

It was ordered that 1,000 large posters extra be printed this year.

The revision of the prize list was then taken up and completed.

A number of accounts were reported on by Finance Committee and ordered to be paid.

The Printing Committee reported in favour of giving the printing to the Mail Office and Hunter, Rose & Co.

The meeting then adjourned.

HENRY WADE,

Secretary.

GUELPH, May 1st, 1884, 2 o'clock P.M.

Minutes of joint meeting of committee from Agriculture and Arts Association and Guelph Fat Stock Club.

Present—George Moore, J. B. Aylesworth, L. E. Shipley, J. C. Snell, and Henry Wade, from the Association; and Wm. Whitelaw, James Henderson, M. Sweetman, R. A. Kirby, John I. Hobson, James Miller, and Walter West, from Fat Stock Club. From the City Council, Ald. Brill and Macdonald.

On motion of Mr. Aylesworth, seconded by Mr. Hobson, Mr. Wm. Whitelaw was elected President of the Fat Stock Show.

On motion of Mr. James Miller, seconded by Mr. Moore, Mr. Henry Wade was elected Secretary.

On motion of Mr. Anderson, seconded by Mr. Snell, Mr. James Miller was elected Treasurer.

It was decided that it be called the Ontario Provincial Fat Stock Show.

The prize list was then revised, also the rules and regulations. The business basis was then decided upon by motion of Mr. Hobson, seconded by Mr. West:—

That the Agriculture and Arts Association of Ontario and the Fat Stock Club of Guelph do hold a Fat Stock Show in the city of Guelph in the month of December next, and that each association grant the sum of five hundred dollars towards that end, and that if profits be made they be equally divided at the end of the year, or if there are losses they be equally met, and that six gentlemen from the Agriculture and Arts Association and whatever members are appointed by the Fat Stock Club of Guelph be a committee to manage such show.—Carried.

It was resolved that the show be held on Wednesday and Thursday, the 17th and 18th of December next.

On motion of Mr. Anderson, seconded by Mr. Miller, the following gentlemen were appointed on the Executive Committee:—

From the City—Mayor Chase, Ald. Coffee, Brill, and Macdonald.

From the Club—Messrs. Hobson, Sweetman, Anderson, West, Smart, Phin, and Professor Brown.

From the Association—Messrs. Moore, Snell, and Wade.

The meeting then adjourned.

HENRY WADE,
Secretary.

WM. WHITELAW,
President.

CITY COUNCIL CHAMBER,
OTTAWA, August 19th, 1884, 10 A.M.

Minutes of meeting of Executive Committee.

Present—Henry Parker, Chairman, J. Legge, J. B. Aylesworth, Ira Morgan, D. P. McKinnon, George Graham, Treasurer, and H. Wade, Secretary.

Several letters were read from people regarding side shows. On motion of Mr. Legge, seconded by Mr. Morgan, Mr. Parker was appointed a committee to adjudicate on the proper shows to have licenses, and the amount to be paid for them.

The Treasurer was requested to prepare conditions of sale for the booths, and the Secretary to invite the members of the Provincial Government of Ontario and the members of the House of Commons of Ontario.

OTTAWA, August 20th, 1884, 10 A.M.

The members of the Executive Committee met the Local Committee of the City Council.

The question of sports was discussed, and it was decided to have inside attractions for the Friday, the Agriculture and Arts Association voting three hundred dollars as a nucleus to the Local Committee towards a fund for that purpose.

The Local Committee then retired.

A letter was read from A. S. Woodburn as follows:—

OTTAWA, August 19th, 1884.

To the President and Committee of the Provincial Exhibition at Ottawa:

GENTLEMEN,—Having made a proposal to Mr. Wade to print the catalogue of your entries for the forthcoming exhibition, I beg now to put the matter formally before your committee. I propose getting up a reliable and comprehensive "Guide Book" for the use of strangers and the public generally; and with a view of making it increasingly useful and profitable, it has suggested itself to me to add with your permission and co-operation the list of entries as published in separate pamphlet by your association last year. The book would probably be sold to outsiders at ten cents per copy, but for the purposes of your Association, I would furnish 500 copies of the complete Guide Book with entries at a total cost of thirty dollars.

Soliciting the consideration of this proposal,

I am very respectfully yours,

A. S. WOODBURN.

On motion of Mr. Morgan, seconded by Mr. Legge, Mr. Woodburn was awarded the contract.

On motion of Mr. Legge, seconded by Mr. McKinnon, Mr. Ira Morgan was appointed to interview manufacturers in the city and neighbourhood in the interest of the

Exhibition. Mr. Wade was also requested to accompany Mr. Morgan as far west as Pembroke.

On motion of Mr. Morgan, seconded by Mr. Legge, the thanks of the Association were given to the Hon. Mr. McLean for the use of the Fishery Exhibit, and to the Hon. Mr. Langevin for the promise of illuminating the Public Buildings.

The meeting then adjourned.

HENRY WADE,
Secretary.

BOARD ROOMS ON GROUNDS.

The next meeting of the Council took place in the city of Ottawa, on the occasion of the holding of the Grand Dominion and 39th Provincial Exhibition, at the Board Room on the Grounds, at 10 a.m., on Monday, the 22nd of September.

Members present—Joshua Legge, President; Messrs. Rykert, Morgan, White, Aylesworth, Parker, Carnegie, Snell, Drury, Shipley, and the Secretary.

The minutes of the April meeting, in the city of Toronto, were read and adopted.

A letter was read from Mr. C. E. Chadwick as follows:—

INGERSOLL, May 31st, 1884.

DEAR SIR,—I beg to advise that the Board of Directors of the Dairymen's Association of Western Ontario have this day granted the sum of one hundred dollars to the Ontario Arts and Agriculture Association, to be distributed in prizes for the Exhibition of Dairy Produce at the autumn fair.

I am, yours truly,

CH. E. CHADWICK,
Secretary Western Dairy Association.

H. WADE, Esq.,

Agriculture and Arts Association, Toronto.

A letter was read from the Commissioner of Agriculture of Ontario as follows:—

TORONTO, 21st August, 1884.

DEAR SIR,—Your favour of 15th inst., enclosing offer by the Agriculture and Arts Association for settlement of the claims of the Government for repairs and alterations to Agricultural Hall, is received.

The offer is accepted by the Government with the additional conditions which, though not expressed in the report of your Committee, were understood and agreed to in the interview had with the members of your Association, viz., that the Association transfer to the Government all their claims against Mr. Jamieson, the lessee, for any amounts properly payable by him for repairs or alterations in the said building, and also that the Government are to have the occupation of the rooms now used by them for at least ten years.

The agreement, with the conditions I mention, has been approved by the Lieutenant-Governor in Council, and I shall therefore be happy to receive from you a cheque of three hundred dollars (\$300), which you say you are ready to pay.

I am, dear Sir, yours truly,

A. M. ROSS,
Provincial Treasurer.

H. WADE, Esq.,

Secretary Agriculture and Arts Association.

A letter was read from Hon. John A. Macdonald as follows:—

EARNSCLIFFE, Ottawa, 13th June, 1884.

SIR,—I have the honour to acknowledge the receipt of your favour of the 6th ult., with enclosures of two resolutions—the first thanking the Government for the grant of

\$5,000 in aid of the premiums for the Provincial Exhibition at Ottawa, and the second asking me to open the grand Dominion and thirty-ninth Provincial Exhibition on the 24th September.

In answer I beg to say, that I have communicated your expression of thanks to my colleagues, and I desire also to state that I shall be glad to open the Exhibition on the day named.

I have the honour to be, Sir,
Your obedient servant,

JOHN A. MACDONALD.

HENRY WADE, ESQ.,
Secretary Agricultural Association, Toronto.

DEPARTMENT OF AGRICULTURE,
OTTAWA, Canada, 23rd August, 1884.

SIR,—The Minister of Agriculture desires me to call your attention to the fact that it is desirable to secure an exhibit from Manitoba and the North-West at the coming Exhibition to be held in Ottawa.

If you have not taken such steps, the Minister desires me to ask that you would authorize a payment of \$500 or \$600 from the vote of Parliament in aid of such exhibits, to be collected by the agents of this department.

An early reply is solicited.

I have the honour to be, Sir,
Your obedient servant,

J. LOWE,
Secretary Department of Agriculture.

HENRY WADE, ESQ.,
Secretary Agricultural and Arts Association, Toronto.

Note by Secretary.—Three hundred and fifty dollars of this amount only was used.

The Secretary explained that a short time ago he had heard from Lord Melford that His Excellency the Governor-General would be able to visit the Exhibition after all, so he had arranged, after consulting with the Executive Committee, to have an address presented to His Excellency on Thursday, the 25th of September, the day after the formal opening by Sir John A. Macdonald.

On motion of Mr. Parker, seconded by Mr. Morgan, a committee consisting of the President, Mr. Legge, Mr. Drury and Mr. Carnegie was appointed to prepare addresses to Sir John A. Macdonald and His Excellency the Marquis of Lansdowne.

It was resolved that the regular meetings be held on the grounds at 10 a.m. and 3 p.m. during the Exhibition.

Meeting adjourned.

MONDAY, 3 P.M.

Same members present, also Messrs. McKinnon and Reid in addition. The President in the chair.

A communication was read from the City Engineer, Mr. Surtees, with list of city aldermen and officials, also requesting a number of tickets for participators in the games. His request was granted.

On motion of Mr. White, seconded by Mr. Morgan, it was resolved that the British and Foreign Bible Society be allowed a stand for the exhibition and sale of their Bibles free of charge and that a pass be given Mr. McCullough, their agent.

On motion of Mr. Rykert, seconded by Mr. White, Messrs. Carnegie, Snell, Morgan and Derbyshire be a committee to test and award the prizes on milk cows.

Meeting adjourned.

HENRY WADE,
Secretary.

BOARD ROOM ON GROUNDS,

OTTAWA, September, 23, 1884.

Council resumed, the President in the chair.

The following correspondence was read :

TORONTO, September 22, 1884.

MY DEAR SIR, — I beg to acknowledge your invitation on behalf of the Agriculture and Arts Association of Ontario to visit the Thirty ninth Exhibition at Ottawa during the present week, and, if nothing unforeseen intervenes, purpose having that pleasure on Thursday, 25th.

Yours truly,
A. M. ROSS.

HENRY WADE, ESQ.,
Secretary Agriculture and Arts Association, Ottawa.

On motion of Mr. Drury, seconded by Mr. Aylesworth, school children were allowed admittance for ten cents each, by giving tickets to the Secretary of the School Department. Also, that a special check ticket be prepared for Mr. Jackson, to give to exhibitors who have been compelled to give up their exhibitors' tickets. Also, that the Executive Committee have power to determine the number of tickets to be given to booth lessees.

The following letter was read from the Agricultural Department :

DEPARTMENT OF AGRICULTURE,

OTTAWA, Canada, 22nd September, 1884.

SIR, — It is desired to obtain for the exhibition at Antwerp, at the International Exposition which opens there in May next, specimens of agricultural products, particularly of grains, and grains in stalk, including maize ; also of such roots or other vegetable products as would stand the voyage, and could be preserved until that time.

It is especially desired to have as good specimens as possible of grains of all varieties : also of peas and beans, from all the Provinces.

The necessary expenses for obtaining these products at a fair market price would be defrayed by this Department.

I have the honour to be, Sir,
Your obedient servant,

J. LOWE,

HENRY WADE ESQ.,
Secretary Agriculture and Arts Association,
Russell House, Ottawa.

Secretary Department of Agriculture.

A Committee consisting of Messrs. Morgan and Nicol were appointed to collect grain for this purpose.

A Guard Superintendent to ride on horseback was appointed by the Gate Committee. Guest badges were ordered to be given to members of the British Association.

Meeting adjourned.

TUESDAY, 3 P.M., 23rd September, 1884.

No quorum.

HENRY WADE,
Secretary.

WEDNESDAY, 10 A.M., September 29, 1884.

Council present, the President in the chair.

On motion of Mr. Carnegie, seconded by Mr. Drury, it was resolved that all protests be handed to the several committees to adjudicate upon. The judges on machinery and the art department were set to work in the afternoon. On account of the formal opening of the Exhibition at 2 o'clock by Sir John A. Macdonald the afternoon meeting was omitted.

HENRY WADE,
Secretary.

FORMAL OPENING.

Precisely at 2 o'clock Sir John A. Macdonald, accompanied by Lady Macdonald, drove to the stand, where he was presented with the following address by the President :

To the Right Honourable Sir John A. Macdonald, K.C.B. :

SIR, — It is not often in a country where popular Government exists that the thirty-ninth gathering of an organization, such as that of the Agriculture and Arts Association of Ontario, is opened by one who, like yourself, had entered public life before its inception : who has during the intervening years continually occupied a prominent position in the Councils of the country, and who, after the lapse of nearly four decades, is its first Minister : and the Council of the Association feel assured that they but give voice to the unanimous feeling of those whom they represent when they congratulate you upon so happy an event, and express the hope that you may be long spared to witness the continued progress of that portion of the British Empire in whose service the best years of your life have been spent. Those who, like yourself, can recall the earlier exhibitions held under the auspices of this Association cannot fail to see on these grounds, not only many evidences of the substantial progress which Canadian agriculture has made and is making, but an ample justification for the liberal grants from the Public Treasury, which have from time to time been made thereto, and for not a few of which the Association has to thank yourself and colleagues.

JOSHUA LEGGE,
President.

HENRY WADE,
Secretary.

THE PREMIER'S REPLY.

Sir John Macdonald said : — I must in the first place return to you my sincere thanks for the honour which you have conferred upon me by inviting me to open this Exhibition : and in the second place, I have to thank you most gratefully for the kind expressions contained in your address. It reminds me of my age, which is not always a very pleasant recollection. I presume on the present occasion, however, it is.

As the address states, I was in public life before these Associations were organized. It has been my happy lot to see the commencement of these gatherings for agriculture and art and other purposes grow from a very small plant into a magnificent tree.

On behalf of myself and colleagues I would return you mine and their thanks for the allusions to us as having been in some degree instrumental in aiding these Exhibitions by liberal grants which have been made in their support. We would have been wanting in our duty to the country if we did not exercise that liberality, in drawing moneys out of the Canadian taxpayers' pockets for the purpose of aiding this most trustworthy institution.

I am exceedingly happy to have the opportunity of opening this Exhibition in the city of Ottawa. I remember — I was going to use the Hibernianism — before it was in existence. I remember it when it was a small village, and you may fancy the difference in the importance of the city when I tell you I was arbitrator for the purpose of settling the value of the Sparks streets, on which the major portion of the city has been erected. The British Government were desirous of finding out the value of the land so that they might make up their minds if they would add it to the canal property, or hand it back to

the proprietor. After a full investigation I appraised the farm as being worth £20,000 sterling. The British Government said it was twice too much and refused to pay for it, much to the annoyance and disgust of the owner. But the fact of the rejection caused the erection of the city which is now worth millions upon that farm.

I have also another reason why I am proud to open this Exhibition at Ottawa. The Government of which I am a member were instrumental in bringing the seat of government here. When the Queen selected Ottawa as being a fitting metropolis for the Old Provinces, being on the margin of Upper and Lower Canada and therefore acceptable to both Provinces, and a vote of Parliament rejected the measure, I felt bound in honour to resign owing to this insult offered to Her Majesty's request. For all these reasons it is a peculiar happiness and pleasure to me to be called upon to open this Exhibition.

To-day I have not yet had the opportunity of going around the grounds. I have no doubt the Exhibition will be a credit to the Dominion, and a credit to the Provinces of Ontario and Quebec, and will demonstrate in the most forcible way the rapid advancement of the Old Provinces of Canada and all that is connected with the development of its natural progress. Great as has been the improvement we are only in our infancy.

You have all read the marvellous accounts of the agricultural fertility and resources of the new Ontario in the North West. These Exhibitions will, I have no doubt, some day find their course westward, and it will be our pleasant duty to combine pleasure with business along the line of the C. P. R. to visit Winnipeg, and judge for ourselves the progress of this new portion of our great Dominion.

I beg again to thank you, gentlemen, and now I declare this Exhibition open.

DISTINGUISHED VISITORS.

Among those present on the grand stand were Sir David Macpherson, Hon. A. P. Caron, Hon. Mackenzie Bowell, Sir Leonard Tilley, Hon. John Carling, Messrs. P. Baskerville and Monck, M.P.P.'s.

BOARD ROOM ON THE FAIR GROUNDS.

OTTAWA, Thursday, 10 A.M., 25th September, 1884.

Council met.

The judges on live stock were called and started at their various duties, and the vacancies filled.

The Council then adjourned, to meet at the Russell House at 8 o'clock P.M.

HENRY WADE,
Secretary.

VICE-REGAL VISIT.

Address to His Excellency the Most Honourable Henry Keith Petty Fitzmaurice, Marquis of Lansdowne, Governor-General of Canada, etc.:

In behalf of the Council of the Agriculture and Arts Association of Ontario, we feel it a privilege and an honour to be permitted to make known to your Excellency at this time, the very great pleasure it afforded us when it was announced that Her Most Gracious Majesty the Queen had appointed you as her representative of this loyal colony.

In behalf of our Council and of the various interests it represents, we bid you kindest welcome to our shores, and assure you at the same time of our deep sense of the honour you confer upon us by your present visit, and also that of Lady Lansdowne.

It affords us particular pleasure to extend to you our earnest welcome at a time so auspicious, when Divine Providence has so profusely scattered His gifts in the form of a bountiful harvest, when the various arts are flourishing in our land, and especially when the evidences of this prosperity are concentrated (as you will see them to-day) in this, by far the oldest exhibition of any special note that is now held in the Province.

That this prosperity is not imaginary, we invite the attention of Your Excellency to the fact that we have more truly good stock of the principal breeds at this Exhibition than can be gathered from a similar area on the American continent.

Though the same may not be truthfully said of all the various branches of the exhibit, we feel proud to be able to represent agricultural and manufacturing interests, where so much that is really good is brought together at one exhibition.

While we in no way wish for a moment to speak disparagingly of any one of the departments, we feel that we should make especial mention of the agricultural implement department, the various machines and appliances of which now on exhibition would enable a lad and one or two horses to accomplish more in a single season in many branches of farm work than would be overtaken by an ordinary farmer and his staff thirty-nine years ago, when this Exhibition was first established.

Our Exhibition has been labouring under the disadvantage of moving from place to place, that the results sought by all fairs worthy of the name—the profitable education of all classes of the people—might result in the highest degree. The invariable fruits have been that the farmers have borne testimony to the usefulness of the institution by the acknowledged impulse it has given to progress in every section where it has been held. Our Council have therefore cheerfully continued to labour under this disadvantage for the sake of the public weal.

We sincerely trust that the visit of Your Excellency and of Lady Lansdowne to this fair may be a very pleasant one to you both, that we may be permitted to welcome you at our succeeding Exhibitions, and that your entire sojourn with us in your present relationship may be of such a nature that the utmost good may result to yourselves and to this fairest jewel of Her Majesty's crown.

On behalf of the Council.

JOSHUA LEGGE,

President.

H. WADE,
Secretary.

OTTAWA, September 25, 1884.

THE REPLY.

His Excellency replied as follows :

Mr. President and Members of the Council of the Agriculture and Arts Association, and Gentlemen :

I am glad to have the honour of receiving this address, and to receive these assurances of your good-will. It was a pleasure to me to learn that it was your wish that I should pay an official visit to your Exhibition. I think I may say confidently that if there is any cause with which the Queen's representative may legitimately identify himself it is that which your Association is endeavouring to promote. It has been my good fortune to have had recently more than one excellent opportunity of judging of the efforts which are being made in this country for the advancement of the industries and agriculture of the Dominion. Within the last few weeks I have had the advantage of being present at the Exhibitions held at Montreal and Toronto. Of what you are doing here I have had a glimpse only. I may say without exaggeration that what I have seen has from beginning to end been to me a revelation of the resources of the Dominion and of the enterprise of the people.

I am glad to know that the city of Ottawa, the national capital, is not going to be left behind in the race, and that you are doing all in your power to make it not merely the official centre of your national life, but a headquarters of industrial activity and commercial progress. This is a country of wonderful developments and extraordinary transformations. The prairie gives place to the cornfield, the rough group of settlers' cabins becomes a village, and the village a city with a rapidity inexplicable to us who are used to the more gradual movements of the Old World. I question, however, whether any transformation has, in its way, been more rapid or any development more remarkable than that which this city has undergone within little more than the lifetime of a generation.

During my stay at Toronto I had the pleasure of being presented to a group of venerable gentlemen known as the York Pioneers, men whose memories carried them

back to the earliest beginnings of its prosperity, and who were able to give me a most interesting account of the wonderful changes which, within the space of their own recollection, had been undergone by their city. I do not know whether you have here such a thing as a society of Bytown Pioneers. If you had, I fancy that the description which they would be able to give of Ottawa, past and present, would be one of an instructive and truly remarkable character. If I may judge by the recent improvements which have been effected in the city even within the short time which has elapsed between the date of my departure and my return, I should say that it was not likely to stand still in the future.

That these exhibitions, or fairs as you call them (and I must own my preference for the more old-fashioned and homely word, which conveys an idea of holiday making and social enjoyment not conveyed by the longer and more pretentious designation) have produced and are likely to produce many useful results appears to me to be incontestable. They give in the first place to intending purchasers opportunities of instituting comparisons which under no other circumstances it would be possible for them to make between the different articles from which they have to choose. They act as incentives to invention and improvement—they afford to your people a great deal of education of the most practical and easily acquired kind. All these results are most useful, particularly in a country the population of which is widely scattered, and in which the centres of industrial activity are far apart.

Indeed, I am not sure that one of the most important results of the holding of these shows is not to be found in the manner in which they bring your people together from time to time under the happiest possible circumstances. To a new-comer and student of your institutions these fairs are indeed interesting as exhibitions, not only of the products of the country, but of its people. It is a striking sight to see your rural population flocking in thousands to the cities. In this respect I am bound to say that the impression they produce is a most favourable one. I will mention one little fact in illustration of my meaning. Upon one day on which I visited the Toronto Exhibition I was informed that there were probably fifty thousand people within the grounds. Amongst these I did not see a single individual who was otherwise than comfortably clad or respectable in appearance and demeanor, and this although refreshments in abundance were attainable upon the spot. I enquired of the authorities what steps were taken with the object of preserving order amidst this multitude, and I was informed that although upon that particular day there happened to be double the usual number of police on the ground the whole number of constables present only amounted to ten. A simple calculation will show you that each of these constables was responsible for 5,000 human beings, a fact which speaks volumes either for the vigour and energy of the one policeman, or for the character and conduct of the 5,000 spectators. I have read with pleasure a statement that since this Exhibition had been open the fair has been full but the cells empty, in spite of the concourse which has been attracted.

Gentlemen, I will not attempt to express an opinion upon the merits of the different classes of exhibits which I have seen brought together at these Exhibitions. I may, however, perhaps be allowed to say that I have noticed with pleasure the excellence of many of your textile fabrics, of your agricultural machinery, to which I observe that you have specially directed my attention, so valuable in a country where labour is often scarce, of your vehicles admirably adapted to your local requirements, and of your live stock which reflects the greatest credit upon the enterprise and public spirit of your breeders. Your agriculturists seem to be determined to find out by experience what is the animal best suited to their purpose, and to get that animal good of its kind.

Perhaps you will allow me to remind my hearers, as I reminded them at Toronto and Montreal, that there will be held in London the year after next a great exhibition of the productions of the British Colonies, and if the Dominion is to be well represented at that exhibition timely steps will have to be taken not only by those who will be responsible for the direction of the necessary arrangements, but also by our manufacturers, and by everyone who is able to produce any article the public display of which might tend to the advancement of the Dominion in the public estimation.

I cannot conclude these few observations without joining with you in congratulating

the farmers of the country upon the beautiful harvest with which Providence has rewarded their efforts, a harvest the result of which I have little doubt will before long assert themselves in the shape of an increase in the commercial activity and general welfare of the country.

Allow me lastly to thank you for the courteous language in which you have referred to my appointment to the office which it has pleased Her Majesty to confer upon me, and to express the pleasure which it has given to Lady Lansdowne and to myself to meet you under circumstances so agreeable as those under which we are assembled here to-day.

His Excellency, at the conclusion of his speech, was loudly applauded. Three cheers were also given for Lady Lansdowne.

The Hon. A. M. Ross, Commissioner of Agriculture of Ontario, was in attendance during the day.

COUNCIL MEETING, RUSSELL HOUSE,
THURSDAY, 8 P.M., September 24, 1884.

Members of the Council all present. The President in the chair.

The Secretary read the minutes of the Executive Committee meeting of August 20, and they were confirmed.

On motion of Mr. Parker, seconded by Mr. Morgan, a committee was appointed, consisting of Mr. Carnegie, Drury and Rykert, to examine and report on the Oriental display.

On motion of Mr. Carnegie, seconded by Mr. Drury, the report of the Educational Committee, as read at the annual meeting, was adopted; and the Committee were requested to continue the scheme.

On motion of Mr. Parker, seconded by Mr. White, Mr. Drury was given authority to pay the accounts that would be presented towards the close of the Exhibition.

Mr. Snell proposed that the rule as to the ownership of cattle be improved, so as to make the cattle be the property of the owner at the time advertised for entries to close.

Council then adjourned until Friday evening, at the Russell House.

HENRY WADE,
Secretary.

RUSSELL HOUSE,
FRIDAY, 8 P.M., 25th September, 1884.

Council met, pursuant to adjournment.

All the members present, except Messrs. McKinnon and Rykert.

Mr. Carnegie presented the report of the Main Building Committee awarding extra prizes; it was confirmed.

Mr. Smith, an exhibitor, was refunded \$10.00, paid by him for an allotment of land.

Mr. Drury presented report of extra awards on machinery, which was adopted.

It was decided to give Mr. George Whitfield, of Rougemont, Quebec, a prize, amounting to \$25 and a Dominion silver medal, for his collection of Sussex, West Highland, Shetland and Kerry cattle.

Mr. Drury reported favourably of the Oriental exhibit.

On motion of Mr. Shipley, seconded by Mr. White, a vote of thanks was given to Samuel Wilmot, Esq., an ex-President of this Association, for his untiring zeal and general efficiency in gathering together and successfully exhibiting the Fishery Exhibit of 1883 in London, England, in connection with the Dominion Government.

On motion of Mr. Parker, seconded by Mr. White, a vote of thanks was given to the Local Committee of the City of Ottawa, for their kindness and courtesy to the officials of the Association.

On motion of Mr. Aylesworth, seconded by Mr. Parker, a vote of thanks was given to Mr. A. S. Woodburn, for the very efficient and energetic way in which he has acted as local Secretary, and that the sum of \$30 be paid him.

On motion of Mr. Drury, seconded by Mr. Morgan, a vote of thanks was given to the various railroads for their efficient services in transporting passengers and stock to and fro during the week.

A deputation, consisting of Major Tilton and A. S. Woodburn, waited on the Council to get an abatement from the \$300 paid for the booth bought by the Womans' Christian Temperance Association.

The deputation were successful, and \$50 was ordered to be deducted from the rental.

In answer to what Major Tilton said about liquor being sold on the grounds, Mr. Drury explained that the Council give no privileges whatever as to selling liquor on the grounds, and that if it were done the city officials were to blame in the matter.

Mr. Parker also said that the privilege of selling liquor was not sold with the booths. The purchasers were distinctly told that if they did sell it was at their own risk.

On motion of Mr. Parker, seconded by Mr. Carnegie, the meeting adjourned, to meet in Guelph on the 16th of December next, at 10 o'clock A.M.

HENRY WADE.

Secretary.

N.B.—At an interview the President, Mr. Legge, and Mr. Drury had with the Hon. Mr. Pope he requested our Association to get more samples of grain and roots in the West. Your Secretary was requested by these gentlemen to obtain, by visiting other fairs or by correspondence, the grains, etc., required.

A letter was also received from Mr. Lowe, dated October 2, as follows:

DEPARTMENT OF AGRICULTURE,

OTTAWA, Canada, 2nd October, 1884.

SIR,—It occurs to me to ask if you could get together from any of the exhibitions, a few samples of fruits and roots, in addition to grain, which would bear transport to Bristol, England, for the use of the immigration office at that point: these being especially requested by the agent. Of course the expense would be defrayed by the Department.

Believe me,

Yours truly,

H. WADE,
Secretary.

J. LOWE.

At a later date our President, Mr. Legge, was appointed a commissioner by the Department of Agriculture, to take charge of the collections and get more. He, together with your Secretary, visited Brantford and Cobourg, your Secretary having visited Hamilton before, and at each place made several collections.

ANNUAL MEETING OF THE AGRICULTURE AND ARTS ASSOCIATION OF ONTARIO, AT OTTAWA.

This took place at the Council Chamber of the City Hall, at Ottawa, on the evening of Wednesday, the 21st of September, at 8 o'clock p.m., Joshua Legge, President, in the chair.

The Secretary, Mr. Henry Wade, then called the roll: first the members of the Council, then the delegates from the various societies, the following gentlemen answering to their names, viz.:

Members of Council.—District No. 1, D. P. McKinnon, South Finch; No. 2, Ira Morgan, Metcalfe; No. 3, Joshua Legge, Gananoque; No. 4, J. B. Aylesworth, Newburgh; No. 5, John Carnegie, M.P.P., Peterborough; No. 6, J. C. Snell, Edmonton; No. 7, G. Moore, Waterloo; No. 8, J. C. Rykert, M.P., St. Catharines; No. 9, Henry

Parker, Woodstock; No. 10, Hugh Reid, Annan; No. 11, L. E. Shipley, Greystead; No. 12, Stephen White, Chatham; No. 13, Charles Drury, M.P.P., Crown Hill.

Delegates from Agricultural Societies.—Addington, A. V. Price; Algoma, William Saunders; Brockville, James Saunders, John Forth; Cornwall, Samuel Wood, Wm. J. Wood; Carleton, Thomas M. Robertson, John Dawson; Dundas, Reuben Tuttle; Durham, East, Johnson Beatty; Durham, West, Levi Van Camp, Robert Beith; Essex, South, Lewis Arner; Grey, North, William Thompson; Hastings, East, William Clazie, Andrew Coulter; Huron, East, Robert Gibson; Kent, East, A. J. C. Shaw, Thamesville; Lambton, West, William Lascombe, A. R. McGregor; Lanark, North, Andrew Wilson; Leeds, South, W. H. Dargaver, William Webster; Leeds, North and Grenville, W. H. McGee; Lincoln, Charles E. Brown, Robert Currie; Norfolk, North, Oliver Jarvis; Norfolk, South, Oliver Austin, A. M. Smith; Northumberland, West, James Barnum, Sylvester Isaac; Ontario, South, John Dryden, M.P.P.; Oxford, North, Joseph Peers, Charles Wilson; Ottawa, Robert Cummings, A. S. Woodburn; Perth, North, James Ballantyne; Peterborough, East, Frank Birdsall; Peterborough, West, J. E. Bell, John Garbutt; Prescott, John Cross, V. Le Roy; Renfrew, South, James Carswell; Simcoe, South, D. K. Ross, C. Cook; Simcoe, East, J. Cuppage; Stormont, John McLaughlin, William McCollum; Toronto, A. Smith, V.S.; Wellington, South, John Gowdy; York, North, E. Jackson, John Rogers; York, East, John Crawford.

The President then read the following address:

GENTLEMEN OF THE PROVINCIAL ASSOCIATION,—In accordance with the usual custom of the Association, it now devolves upon me to deliver the annual address, not that I imagine that I can enlighten this vast assemblage of intelligent men by anything I can advance on the subject of agriculture, but in the hope that some of my remarks may prove of advantage to the younger portion of this audience by suggesting trains of thought which may lead to a more careful study of the most noble pursuit open to man, than of agriculture.

This is an age of centennial or semi-centennial celebrations, and although the Agriculture and Arts Association has not yet completed its half hundredth year of its existence, I think I may be pardoned for looking back over the thirty-nine years it has been in operation, and noticing some of the most characteristic and important changes which have taken place in the quality of its exhibits, and which are undoubtedly due in a very great extent to the existence of the Association itself. Even the most casual observer must be struck with the wonderful, almost marvellous improvements which have of late years taken place in the manufacture of agricultural implements. If the promoters of this Association could walk through the Exhibition grounds to day and see the mowers, reapers, binders, threshing machines, purifiers, and hundreds of other labour-saving machines which are now to us as every day affairs, they would think it little, if anything short of a miracle that such a wonderful development could have taken place in what is comparatively so short a time. This development is to a very great extent attributable to the annual meetings of this and kindred associations. The meeting in competition year after year of different manufacturers has acted as a spur to invention and enterprise. The model machine of one year has been outstripped in the next by some newer and better competitor for public favor, and as we have gone on more and more thoroughly developing the possibilities of agricultural machinery, we may not have reached perfection. The agricultural implements of thirty-nine years from this may be as far ahead of those of the present day, as what we have had on exhibition that year are ahead of those in use when the Association was inaugurated. But it will with justice be claimed by the Association that a great deal of this development is due to the annual exhibitions. So to with the quantity of stock exhibited; we see here the annual comparisons of various breeds, and the various methods of raising meat, has improved the quality, until now we can claim that in Canada we can show at our annual exhibition some of as fine stock as can be found in any part of the world, not only the quality but the quantity of the meat grown in Canada has so materially improved, that our exports of live cattle to Great Britain are fast developing into one of the leading industries of the country, and when the surplus cattle from the vast ranches at the foot of the Rocky Mountains begin to reach the sea-

board, Canada will rapidly take her place as one of the foremost exporting countries in the world, and it may be no figure of speech to say that the "roast-beef of old England" will be grown in Canada.

Nature ministers to the farmers, and the most beautiful of the sciences are hand-maidens. Botany gives him the history of the plants he cultivates. Chemistry has taken an inventory of the soils and analyzed the plants that draw sustenance from them, and show what is needful to be provided to sustain the growth of the plant. Geology, too, has a natural connection with agriculture, and invests the formation of rock and soil with a new interest. It shows how chemical changes have prepared a heritage for man, and how by the slow evolution of time the barren rocks have become assimilated and suited for his purposes.

There is a somewhat general impression that the farmer does not require as high an order of education as do other classes of workers. This is a great mistake. Farming is a high intellectual pursuit, and those devoted to it have need of a wider scope of knowledge than any other class of men. There are enough in its operations to engage the abilities of the most comprehensive minds; and it has failed to be the leading occupation in all respects, only because the intellectual force of mankind has not sufficiently sought it as a field for its efforts. Now, however, when it is seen that it is connected with the most interesting subjects of human research, that the noblest of the sciences illustrate its processes, that it gives scope for enlightened intellects and disciplined minds and demands scientific skill, we shall see agriculture inspired with mental power until it takes the position of the most respected, as it is the most important, of human pursuits. We need to purge the minds of our youths of the prejudice that ranks agriculture as something less honourable than other callings or professions. Let them be brought to feel the inherent dignity of their occupation, and realize that by the vigour of constitution it promotes, and the personal independence it secures, farming is the most desirable of pursuits.

The great question of the present state of society and its educational appliances, is, how a knowledge of scientific and practical agriculture can be best attained? and with this end in view, our board, thinking that the best plan would be by commencing to impart that knowledge to our farmers' sons while they are attending our public schools, have petitioned the Minister of Education, asking to have introduced into our public schools an agricultural text book. The extent of the information that could thus be given would necessarily be restricted; but it need not on that account be otherwise than sound and practical.

We have already several text books suited for such a purpose, and teachers, without the expenditure of much time or money, might prepare themselves for the work. The matter contained in farmers' text books, adapted to meet Canadian wants, would, if carefully gone through in the country schools, impart a considerable amount of sound and useful instruction and lay a firm foundation for whatever subject addition the pupil may please to build thereon. Our Agricultural College has of late years attracted no inconsiderable amount of attention in our province, and a large number of experiments have been made with a great degree of success. It is an institution which recognizes the true dignity of human labour, both of the mind and of the hand, and strives in a natural and beneficent manner to combine both in the harmonious relationship. Every true friend of his country and race must earnestly desire that this and similar institutions may realize the aspirations of their founder and promoters, and impart material blessings to posterity. Our farmers' sons are there shown the latest reasons which man may command from the common and familiar things that surround him. The practical lesson is that the human mind concentrated upon one work, to which the thoughts are devoted, the senses trained, and the faculties adapted, may accomplish results which appear like miracles by the side of all that had been accomplished before. In no direction is the field so expansive as that in which are to be achieved the triumphs of agriculture; the full culture of our superficial soil is yet far from being reached. Passing through the Ottawa Valley south-east and west we find that only a small portion of the surface of that rich interval has been made available. In every part of the country we find swamps and only partially reclaimed lands, the unwrought wealth of our soil, the drainage that has locked up for ages vast stores of natural fertility. In Ottawa county we find beneath us other treasures of the

elements of production, the use of these fertilizing agents and the growth of certain crops make the atmosphere render tribute to the intelligent farmer.

In like manner we may supplement the chemical and reproductive forces that work together for the agriculturists. When farmers as a community shall turn upon their profession the light of all the sciences that illuminate its processes, when they shall make their business a subject of intellectual investigation, when they shall endeavour to make the most of all, even the commonest details of farming pursuits, a success will be achieved which will make for agriculture a new history. Intelligence is not only power, it is the leading creative power. When agriculture receives the thought that its important office demands we shall see it also producing its miracles. I would direct the farmers' sons attention to a valuable essay that the Association offered a prize for last year:—"The tendency of farmers' sons to leave the occupation of their fathers for other pursuits, its cause and remedy."

This region is particularly adapted to dairy purposes. You depend mainly upon grass, the most certain of all crops. Your ability to produce an article which is at once a luxury and a necessity of life is your wealth. It is an inheritance you can leave your posterity that cannot be destroyed save by some unlooked for convulsion of nature. The value of the products of the day is constantly increasing. The section of country that can produce the best, such as will bear shipment, is comparatively small. England and other foreign countries demand your product. The best dairy field of our Dominion is occupied, while the grain growing regions of the North-West are comparatively untouched. That rich prairie country can produce grain to feed half the Canadian family. The most careful estimates show that the annual increase in the demand of butter and cheese for our increasing population form a growing foreign market. In this connection it is gratifying to learn that so much more attention is being paid to the proportion of butter and cheese in the Ottawa district. I am informed that in what is known as the Brockville district, extending from Brockville to Cornwall and including the county back to Ottawa, over 70,000 boxes of cheese have been made from the 1st of May to the 1st of September; and in Glengarry section, 40,000, forming a total of 110,000, valued at \$700,000; to which may be added the product of what is known as the eastern section from Kingston to the boundary line, and St. Lawrence back to Ottawa, and also the product of the remaining two months of the factory season, making a grand total of 200,000 boxes, with value \$1,200,000. With reference to the present exertions it is gratifying to notice that there has been a very material improvement on the two previous Exhibitions held here. For the last Exhibition held here, that of 1875, there were 7,300 entries, and the amount of prizes offered were about \$12,000; this year the entries will be in advance of that number, and the amount of prizes offered is \$23,000. It must be remembered that this year a great Exhibition has just been concluded at Toronto, and another at Montreal, and a third is now in progress in London. In spite of this strong competition the Association is able to show an increase in entries, and I think that this is mainly due to the fact that the farmers appreciate the exertions made by the Council to promote their interests.

In conclusion, gentlemen, permit me to express the regret and sorrow which is felt by the board and myself that one who for so many years worked heartily with us has been called from our midst. In the death of the late Senator Skead the Association has lost an old and valued friend, one who has shared our joy and our sorrows, who was always friendly in council, ready and willing to help, and who did much towards the elevation of agriculture to the ranks of accepted science and honourable profession. Many of us have parted with a dear and intimate personal friend with whom at the meeting of our Association we took sweet council; and his memory will long be held in tender and loving remembrance by us.

I would also wish to convey to the members of the Council my heartiest appreciation of the co-operation and valuable assistance I have received from them, and to thank you all, gentlemen, for the patient attention with which you have received my remarks.

JOSHUA LEGGE.

OTTAWA, September 24th, 1884.

On the conclusion of the address it was moved by Mr. Ira Morgan, of Metcalfe, seconded by Mr. Lewis Arner, of South Essex, that a vote of thanks of the meeting be tendered to the President for his able and interesting address.

The motion was carried unanimously.

Mr. W. A. Webster, of Lansdowne, moved, seconded by Mr. O. Austin, of South Norfolk, that the Association should hold an exhibition next year, and that the Government be asked to continue its annual grant. In moving the resolution Mr. Webster pointed out the great good that the Association had done, and also called attention to the fact that it had now several competitors to contend against, which owed their existence in reality to the parent society from which they had since dropped off.

Mr. Austin, in seconding the motion, said he thought that the Government should be asked to give a larger grant, but he hoped that under no circumstances the idea would be entertained of letting the Exhibition fall through.

Mr. T. Shaw took exception to the introduction of games at an assembly intended for the mental improvement of agriculturists and manufacturers.

Mr. Parker, of Woodstock, said, as a member of the Council he felt called upon to speak on the subject. So far as he was aware, no games had been permitted on the grounds, except those of a perfectly harmless nature. Some parties had obtained permission to ply their vocations under false pretences, but in these cases the money had been refunded and the parties expelled from the grounds. Upwards of forty individuals had applied for permission to carry on games of chance, but in every case they had been refused. He spoke in regard to the bills in connection with the Exhibition and contrasted them with placards of other shows in which the principal feature was a cut of speeding horses in a ring. He thought the Association had every reason to congratulate itself on the way in which its Exhibitions were conducted.

Mr. Shew said it would be better to suppress these nuisances altogether, and trust to the farmers to support the Association in that action.

Mr. Drury also spoke in a similar strain.

The Secretary then read the Report of the Judges on Prize Farms in group No. 5.

MOSBOROUGH, September 20th, 1884.

Hon'ble Wm. E. Esq.

DEAR SIR,—The following is the order in which the Farm Prizes have been awarded, viz. :

Gold Medal.—John Campbell, Jr., Woodville, Township of Mariposa, County of Victoria.

First Silver Medal.—Charles D. Moore, Peterborough, Township of Smith, County of Peterborough.

Second Silver Medal.—Sylvester C. Isaac, Baltimore, Township of Haldimand, County of Northumberland.

Bronze Medal.—Wm. Noble, Port Hope P.O., Township of Hamilton, County of Northumberland.

Bronze Medal.—John Sharp, Ernestown, Township of Ernestown, County of Lennox.

Bronze Medal.—John Wilmot, Kingston, Township of Pittsburgh, County of Frontenac.

(Signed), JOHN I. HOBSON, } Judges.
N. A. PETERSON, }

This award was adopted by the Council, and the Report is published hereafter.

Prizes will be awarded in 1885 in group No. 6, consisting of the following Counties : Leeds, Grenville, Lunark, Dundas, Carleton, Stormont, Russell, Renfrew, Glengarry, Cornwall and Prescott.

The Secretary then read the Reports of the different Judges on Essays.

MOSBOROUGH, September 22, 1884.

To the President and Council of the Provincial Board of Agriculture and Arts.

GENTLEMEN,—Having been entrusted with the duty of deciding upon the merits of two Essays competing for the prizes offered by your Association, on the profit of breeding, feeding and fattening beef cattle for the market, beg leave to report as follows:—

That the first place be assigned to that written by Thomas Shaw, of Woodburn, and the second to John Campbell, Jr., of Woodville—the Essay written by him possessing considerable merit.

All of which is respectfully submitted.

JOHN I. HOBSON.

CROWN HILL, September 20, 1884.

GENTLEMEN,—Having been appointed to read and mark the Essays on the subject hereafter mentioned, of which there were eleven written, I recommend that prizes be awarded as follows:—

On the best and most speedy method of destroying thistles—1st prize to David Nicol, Cataraqui; 2nd prize to Walter Riddle, Cobourg.

(Signed), CHARLES DRURY.

TORONTO, September 20, 1884.

DEAR SIR,—Having been requested by your Council to adjudicate upon the merits of the Essays written on the subject of destroying "Wild Mustard," "Wild Oats," and "Quack Grass," I beg leave to report as follows:—

On the subject of the best and most speedy method of destroying "Wild Mustard," there were three essays presented, but I did not consider that any of them were up to the required standard of excellence.

On the subject of the best and most speedy method of destroying "Wild Oats," there were two essays, neither of which had any practical points, and I did not consider them worthy of a prize.

On the final subject of the best and most speedy method of destroying "Quack Grass," I had seven essays presented, and have awarded the prizes as follows:—1st prize to David Nicol, Cataraqui; 2nd prize to Walter Riddle, of Cobourg.

(Signed), A. BLUE.

These awards were adopted, and will be found published in this report.

Mr. Carnegie then presented the Educational Report.

The undersigned beg leave to report that they have examined the papers sent in by candidates for second and third-class certificates, and that the following candidates have come up to the required standard and are accordingly entitled to certificates, viz.:—

Wm. S. Howell, Sombra P.O. Second-Class Certificate and \$25.

And to Third-Class Certificates:—

John R. Henry, Woodburn P.O.....	1	} and \$30.
Elmer Lick, Oshawa P.O.	2	
George Binnie, Bunessau P.O.	3	} " \$25.
James Whiteside, Ellesmere P.O.....	1	
William Young, Ellesmere P.O.....	2	} " \$20.
Jas. Newman, Mount Forest P.O.	3	
C. R. Brown, Norwood P.O.....	4	} " \$10.
George E. Sneath, Midhurst P.O.....	5	
F. W. Varden, Springford P.O.		} " \$10.
J. B. Warren, Gamebridge P.O.		

And that Wm. S. Howell accordingly becomes entitled to the first prize of \$25 offered by the Association to the candidate for a second class certificate obtaining the highest number of marks; and that John R. Henry, Elmer Tick and George Binnie are entitled to the first, second and third prizes (in the order they are named) offered by the Association to those obtaining the highest number of marks in the third class.

With regard to the fourth prize of \$15 offered to the candidate obtaining the fourth highest number of marks in this class, the undersigned have to report that the next five candidates are so nearly equal that they would recommend that they be each paid the sum of ten dollars.

JAMES MILLS, M.A.
JOHN CARNEGIE.
CHAS. DRURY.

Ottawa, September 24, 1884.

The report was adopted by the Council, and they were so well pleased with the success, that they decided to continue the examinations.

On motion of Mr. W. A. Webster, of Lansdowne, seconded by J. C. Rykert, M.P., of St. Catharines, the meeting adjourned.

HENRY WADE,
Secretary.

REPORT OF PRIZE FARM COMPETITION IN GROUP No. 5.

To the President and Council of the Provincial Board of Agriculture and Arts.

Your Judges, appointed to examine farms entered for competition in Group No. 5, beg leave to present the following report:—

As soon as we received notice of our appointment as farm judges we at once made arrangements for beginning work as soon as possible.

The District in which the competition for farm prizes took place this year was Group No. 5, comprising the counties of Victoria, North and South, Peterborough, East and West, Northumberland, East and West, Hastings, North, East and West, Prince Edward, Lennox, Addington, Renfrew, North and South, and Frontenac.

On the evening of the 23rd of June we met in Toronto, and the next morning left by the early train on the Midland. The first part of our route, until Agincourt was reached, was through that beautiful section of farming country which was pretty fully described in last year's report of the prize farm competition. Perhaps there is no other place in Canada where there is to be seen such uniformity as regards good land, well tilled farms, exceptionally good homesteads, and such indications of wealthy farmers as is to be seen for the first ten or twelve miles after leaving Toronto by this road, and, from our own knowledge, we know that a closer inspection is in no way likely to alter one's opinion in this respect. After passing Markham and nearing Stouffville, the land becomes somewhat more broken. From the latter place until Uxbridge is reached, the railroad passes through a section of country which is far from being what may be considered first-class farming land. It has been originally timbered with pine, is hilly and broken, and apparently the soil is of such a quality as not likely to give to the husbandman a very bountiful return for his labour. It is almost unnecessary to say that the homesteads are in keeping with the general appearance of the farms, and are not of that first-class description such as are usually to be seen on the more fertile lands of Ontario.

We might here add that from our own observation while travelling over a large part of Ontario, that while it is not always the case, yet generally speaking, the class of farm buildings that are to be seen in any particular neighbourhood are usually a pretty good indication of the quality of soil, whether productive or otherwise.

From Uxbridge to Blackwater the road runs through swampy land the whole distance, with occasionally fine looking farms to be seen on either side at a considerable distance

from the road—leading one to suppose that the level land had been selected on account of cheapness of construction.

A good deal of the country through which this road passes is similar to that opened up by the Toronto, Grey and Bruce Railway, and would partly account for their in the first place being built as narrow gauge roads, owing to the difficulty in securing sufficiently large municipal bonuses.

After leaving Blackwater and until Woodville was reached, the land is much better, and as far as we could judge thoroughly well tilled, homesteads good, and the whole had a prosperous look. An exception, however, must be taken to a few of the farms around Cannington, which are completely overrun with wild mustard.

On reaching Woodville station we found Mr. John Campbell (the gentleman whose farm we were going to visit) waiting for us with a comfortable carriage and a pair of horses. The rain at this time was coming down heavily, no doubt to the delight of our farmer friends, but considerably to our disgust, for however pleasant it may be doing the sort of work we were engaged on in fine weather, it is decidedly unpleasant when everything is reeking with moisture. However, fortunately for us the weather cleared up shortly after leaving the station, and on reaching Mr. Campbell's we at once went to work, and had the satisfaction of finding that we had not come a long distance without having a well arranged farm to look at.

MR. JOHN CAMPBELL'S FARM.—GOLD MEDAL.

This farm is about three miles from Woodville, in the township of Mariposa, in the south riding of Victoria. It contains 147 acres, and besides this Mr. John Campbell works twenty acres more of rented land. The soil is a fair clay loam with a clay subsoil. Considerable has been done in the way of planting ornamental and shade trees, chiefly maple. Along the road on the north side of the farm is a nice row of maples of about six years' growth. The private road running by the house and to the barns is wide, beautifully gravelled, and planted on each side—the trees being now large enough to form a fine shade for stock in the adjoining fields. At the time of our visit the day was intensely warm, and a flock of Shropshires was to be seen spread along the fence enjoying protection from the burning sun, which the forethought of the proprietor had prepared for them. The orchard comprises about two acres. On the west of this is a double row of spruce, and on the north cedar is planted. Considerable planting has also been done about the yards and buildings, and adds very much to the attractiveness of a very pretty place.

The buildings are beautifully situated on the rising ground, and show to fine advantage from the road. The location is dry, and the buildings are so situated that the water runs well away in wet weather.

The dwelling-house is a substantial stone building, well arranged for a farm house—the surroundings, including nicely kept grounds, neat fences, and gravelled drive, all helping to give an air of comfort and snugness to this well-kept place.

The barn and other buildings forming the homestead are on stone foundations. They are well constructed, and are specially well adapted for the requirements of the farm. The main barn is 56 by 36 feet, with straw shed 31 by 60, and chaff house additional. The barn is well arranged, the straw being carried by straw-carriers directly into the straw shed. The chaff house is open on the side directly behind where the separator stands, making it an easy matter to pack away the chaff. From this chaff house the chaff passes directly down to the feed room below, that, as well as the straw sheds and haylofts, being so situated that the least possible labour is required in carrying on the work of feeding. Besides the barn already described, is the old one which was first used, and which, having been built of good sound cedar and well constructed, is now in as good shape as when first built, and if the roof is kept right and if not accidentally burnt will be as good a hundred years hence as it is now. Between the frame barn and log barn is a sheep house and an extra horse stable. These buildings form three sides of a square, and in the opening is the sheep yards. Under the main barn is a fattening stable for twelve cattle, a root house with a capacity of 4,000 bushels, feed-room, meal boxes, etc. This building stands on the south

side of the cattle yard. At right angles is a cattle stable 31 by 60 feet, well fitted up with stalls and loose boxes. On the north side is a horse stable and implement house. In the opening formed by these buildings is the cattle yard, which, like the sheep yard, is protected on three sides. These stables are exceptionally well fitted up in every respect and paved with cedar blocks. No racks are used, everything being fed in boxes. What has been said about the cattle stables is equally applicable to the horse stables. Everything is convenient as it is possible to have it. In connection with the stable is a harness room.

The implement house is large and roomy and well filled with all necessary farm implements and tools, and it is quite evident from their well preserved appearance that they are not much exposed to the weather when not in use.

The yard is slightly hollowed out. This has been done for the purpose of preventing the leakage from the manure, and would appear to answer a good purpose. All water from the roofs of the buildings is collected into tanks, and from the position the buildings occupy water from outside sources cannot run into the yards.

The water supply for the yards is from cisterns and pumps, and to the stables with piping and taps, all as convenient as could be wished for. There is also a running stream on the farm.

In one of the stable-passages stand the scales, where cattle or sheep can be conveniently weighed.

The field arrangements are good. The average size of the fields is sixteen acres—fencing well done, and everywhere trim and in order, and around the yard is a close board fence.

A good deal of tile-draining has been done, and quite a large piece of what was comparatively worthless land before being drained is now bearing a very heavy crop of mangolds; in fact, the best crop we have seen this season. In saying this, we refer to our second visit to this farm, which was made on the 10th of September.

The usual rotation which is followed on this farm is—first, roots and fallow; second year, spring and fall wheat; third, fourth, and fifth, grass; sixth, peas or oats; seventh, barley.

This year a large quantity of manure was used on last year's oat stubble, and another crop of oats was taken. This was on account of not requiring any for this year's mangolds, which are now growing on the rich land reclaimed by draining above alluded to.

The acreage of crops this year is as follows:—13 acres of spring wheat, $4\frac{1}{2}$ acres of fall wheat, 14 acres of oats, $7\frac{1}{2}$ acres of barley, $4\frac{1}{2}$ acres of peas, $7\frac{1}{2}$ acres of clover mostly Alsike, 7 acres of hay (this is partly first and the balance second year's grass), $27\frac{3}{4}$ acres of pasture, $4\frac{1}{2}$ acres of mangolds, $\frac{3}{4}$ of an acre of potatoes, $\frac{1}{4}$ acre of carrots, and $3\frac{1}{4}$ acres of turnips. For the last named crop the land on this farm does not appear suitable, and while all the other crops this season on this farm were either heavy or fairly good, the turnips were a comparative failure. This was the more noticeable, as the other root crops in the same field were much above the average.

The system followed in preparing the land for the different crops is so similar with all good farmers, and Mr. Campbell being no exception, it is not necessary to weary the reader by describing it at any length.

The stock on this farm is exceptionally good, both as regards, sheep, cattle, and horses. The sheep now kept are Shropshires, quite a number of which are imported. Mr. Campbell has been a successful exhibitor in this class, both at the Provincial and Industrial Exhibitions; and is now preparing for the present year's shows, and if he does not come out a prize winner he is going to be a hard man to beat.

Of the cattle nine are thoroughbred (Durhams), one of these being imported. The bull in use on this herd is owned jointly by Mr. Grant and Mr. Campbell. It is a magnificent animal of great substance, fine head, and a good deal of style. He was bred by the Messrs. Watts from Burnpton Hero, and, unlike a good deal of stock from that noted bull, he is a deep red. He has been shown four times at the Provincial and Industrial Fairs, and has been a prize-taker every time. Of this stock four calves are entered for this year's shows.

Besides being a breeder, Mr. Campbell does a good deal in the way of fattening.

and like all good farmers places a high value on the manure heap. As this is a farm where an exact account of all farm transactions is kept, we cannot do better than give a statement taken from his books of the feeding done in the season of 1881 and 1882, and of the grain, etc., grown, with cost and profit for 1882.

In concluding our remarks on Mr. Campbell's farm management we would say that from the high style of farming he is carrying out and from the intelligence he brings to bear in the management of the various departments of the farm, including the most important element of successful agriculture, the breeding of improved stock, and, when we consider that he is yet a young man, it is only reasonable to suppose that he will yet take a foremost place amongst the advanced farmers of Ontario.

FAT CATTLE ACCOUNT—1881-1882.

Weights.		Value.
Nov. 1st, 1881.	2½-year-old steer home bred, valued at	\$65 00
" 12th	1,625 lbs. 155 bush. mangolds, at 10 cents.	\$15 50
	1,860 lbs. meal	23 25
	1,550 lbs. cut feed and hay	4 65
	225 lbs. flax meal, at 3 cents	6 75
April 4th.	1,920 lbs. 20 lbs. Thorley food.	2 00
	Cost of feeding	52 15
	Total cost	\$117 15
	Sold April 4th, 1882, at 7½ cents per lb.	\$144 00
	Profit	\$23 25

PRICES PAID AND PRICE RECEIVED FOR FAT CATTLE IN 1881-1882.

Number.		Value or Price Paid	Days Fed.	Sold at.	Gain in Price.
1	2½-year-old steer, home bred.	\$65 00	155	\$144 00	\$75 00
2	2½ " " "	65 00	155	129 15	64 15
3	1½ " " "	28 00	171	75 13	47 13
4	1½ " " "	25 00	171	67 10	42 10
5	1½ " " "	26 00	171	71 66	45 66
6	1½ " " "	26 00	171	70 95	44 95
7	3½ " cow,	30 00	143	75 90	45 90
8	Aged " "	14 00	85	50 00	36 00
9	3½-year-old " "	20 00	46	28 50	8 50
10 and 11	Two 2½-year-old steers.	59 00	21	74 00	15 00
12	cow	28 00	60	57 80	29 80
		\$386 00		\$840 59	\$454 59

RETURN OF CROPS FOR 1884.

Field	Acres.	Value.	Cost.	Profit.	Profit per acre.	Bushels or Tons.	Total Value.	Total Cost.	Total Profit.	Average Bushels or Tons per acre.	Average Cost per acre.	Average Profit per acre.
1	9	283 bushels wheat	349 43	146 95	202 48	21 37	8	19 74	13 41	6	19 74	13 41
3	7	91 "	111 93	77 00	34 93	4 95	8	13 25	9 5	3	13 25	9 5
6	7	278 "	347 50	101 30	246 20	35 96	8	13 25	9 5	3	13 25	9 5
5	10	320 "	232 50	95 40	136 10	13 67	8	13 25	9 5	3	13 25	9 5
10	21	720 "	248 00	152 30	135 70	7 54	8	13 25	9 5	3	13 25	9 5
9	2	50 "	35 00	18 50	16 50	8 25	8	13 25	9 5	3	13 25	9 5
9	24	1,050 "	105 00	60 50	44 50	17 80	8	13 25	9 5	3	13 25	9 5
9	33	2,600 "	260 00	169 20	150 80	43 08	8	13 25	9 5	3	13 25	9 5
9	3	115 "	51 75	26 50	25 25	37 87	8	13 25	9 5	3	13 25	9 5
4	12	24 "	180 00	50 00	130 00	10 83	8	13 25	9 5	3	13 25	9 5
8	8	43 "	100 00	36 00	64 00	8 00	8	13 25	9 5	3	13 25	9 5
11	12	20 "	97 00	22 00	75 00	6 25	8	13 25	9 5	3	13 25	9 5
9	4	170 "	20 40	14 40	6 00	18 00	8	13 25	9 5	3	13 25	9 5
7	10	12 tons of hay timothy	96 00	41 00	55 00	5 50	8	13 25	9 5	3	13 25	9 5
11	12	10 "	55 00	29 00	26 00	2 16	8	13 25	9 5	3	13 25	9 5
			2329 51	980 45	1349 06							

On getting through with our work at this farm we were driven to the station, and there took the train for Peterborough, waiting an hour at Lindsay to make connections. Around Lindsay and until Omemee was reached, the latter place being fourteen miles from Peterborough, the land appears to be fairly good and well suited for agricultural purposes. From Omemee to Peterborough it may be said, to put it in a mild way, to be decidedly uneven and not at all such land as would be easy to operate self-binders and sulky ploughs on. And we would suppose from the costly nature of the railroad work that the country on either side for a considerable distance is also rough, otherwise no doubt a deviation would have been made so as to secure a line which would have been more easily constructed.

On reaching Peterborough we found Mr. Carnegie, M.P.P., who is member of the Council of Agriculture and Arts for that division, and also one of the Prize Farm Committee, waiting for us. Our plan for next day was soon agreed on. The services of a driver and team were secured for next morning to be ready to start at 5.45 a.m. sharp. This somewhat early start was necessary on account of our wishing to get through with the inspection of the next farm in time to get back to Peterborough to catch the 11.30 train for Port Hope.

MR. CHARLES D. MOORE'S FARM.—SILVER MEDAL.

Punctually to the time agreed on we found our man on hand with a good turn-out at the front door of the Oriental Hotel, and after a sharp drive soon reached the farm of Mr. Charles D. Moore. Until we came to the rising ground, from which a good view of the farm is obtained, we had found the general style of farming carried out not by any means according to the rules laid down by the best authorities on this branch of industry.

The first view we had of Mr. Moore's farm led us to suppose that it was the one entered for competition, as it had that general air of good finish which is so noticeable on highly cultivated and well managed farms.

Mr. Charles D. Moore's farm lies four miles north-west of Peterborough, on the Omemee road. It contains 200 acres, besides which fifty acres at some distance is worked in connection with it. This fifty acres is chiefly used as pasture land. One hundred and sixty acres are cleared, and the balance is well preserved bush. The woodland is chiefly timbered with maple, beech, basswood and elm. A stream running from east to west across the farm is fringed with a thick growth of cedar. The land on either side of the stream for a short distance is very stony and is used as a permanent pasture. Besides this a portion of the land lies low. This was originally timbered with cedar, black ash and tamarac. It is covered with rough grasses.

A great deal of draining has been done, and the farm has been rendered very much more productive and valuable from these improvements having been carried out. Heavy crops are now being grown on land which once used to be covered with water at seeding time. Besides draining, much heavy work had to be done before this farm was brought into its present high state of cultivation. The quantity of stone which has been cleared from the fields has been a work of great labour, and represents the expenditure of a good deal of money. A considerable quantity has been utilized in fencing and in other ways. The fields may now be said to be free from those obstructions which interfere so much with thorough tillage.

The soil is a strong clay loam with a subsoil of hard pan—just such a soil as will, under good management, stand a great deal of cropping, and which with poor farming and without draining would be sour and unprofitable. That the former has been the rule for years past no better evidence is required than the weight and general evenness of this year's crops.

As well as other permanent improvements which have been carried out extensively on this farm, a good deal of planting has been done. On the roadside along the whole front of the farm there is a fine lot of timber of about fifteen years' growth. The trees comprise maple, basswood, spruce, birch, etc. From the road to the house is a double row of maples as straight as a line and of good size. On these are three wires which are fastened to the trees, and between each tree and the wire is a piece of tin to

protect the tree. Mr. Moore says if he does more fencing in that way he will tie a short stake to each tree with tarred rope and fasten the wire to the stake. However, the way in which it is now done seems to answer an exceedingly good purpose, prevents entirely a snow block in winter, makes a good and cheap fence, looks well, and does not appear to hurt the trees at all. It appeared to us a good idea well carried out, and one which might be followed with great advantage on many farms. It is a plan which should specially recommend itself to those land owners who are now scarce, or likely soon to be, of rail timber. Around the buildings considerable planting has also been done, and the orchard is protected from the stormy winds by a row of balsams of twenty years' growth. The house is sheltered from the sun's rays in summer and from the wintry blast by choice evergreens and other ornamental trees.

The fences are good and substantial, and supplied with well hung gates wherever required. The fence along the front of the farm is wire, with about two feet of stone at the bottom, and a two by six inch piece of scantling at top. The short fences about the buildings and around the orchard are straight. The field fences are strong cedar.

The buildings include a good dwelling house of stone and brick, which is surrounded by well kept grounds. The barn buildings are extensive and suitable, but not by any means so showy or so well finished as the best class of homesteads in the western part of Ontario. The main barn is 130 feet long, with a large straw shed in front, and with stables 90 by 30 feet on the west side of the yard, and horse stable and driving-house on the east side 60 by 30 feet. The number of cattle that can be housed is sixty. There is also in connection with the yards a large cistern into which the soakage from the yards will be collected and applied directly to the land. This had been constructed between the time of our first and second visit, but it must not be considered that Mr. Moore formerly allowed this to go to waste. It was simply collected and used in a different way. Before the tank was made, it was gathered and applied to the manure heap, part of which was under cover and was dry enough to absorb all that was collected from the yards.

Stall feeding being extensively carried on on this farm, the stables have been specially fitted in a way to be convenient for carrying on that work, and it may be as well at this point to speak of the water supply, which, in arranging these stables, was with Mr. Moore an important consideration. In one set of stables, with stalls for forty feeding cattle, there is a large tank, and by a simple contrivance the water is carried into troughs in front of every animal, so that a constant supply is always before them. These troughs are so arranged that they can be easily covered or opened as required—the uncovering or closing all of them not occupying five minutes. By this means the water is kept clear from chaff or dirt. A tap in the tank supplies the water used for mixing feed and for any other purpose for which it may be required. Besides the supply in this stable, it is also laid so as to be convenient to all the other buildings and the yards. The water is provided mainly from a deep well on the high ground a short distance from the back of the barn. The buildings are also supplied with eave troughs which carry the rain-water into a cistern in the yard. Altogether the system of supplying water to the buildings, yards, and the stock in summer time is exceptionally good. We should have said that the pumping from the deep well referred to is done by a windmill.

As already said, fattening stock is largely carried on on this farm. From sixty to seventy fat cattle are sold yearly. Never less than forty of these are turned out as heavy shipping cattle for the British markets. Mr. Moore being of much more than local fame as a feeder, we will give a few figures showing what he has done in the past. Taking one year as an illustration—in June, 1880, he sold one lot, all fed by himself, consisting of thirty-five steers, the total weight being 52,990 lbs., or an average of 1,514 lbs. By the same account which dealt with that year's farm transactions, we find that over 400 loads of manure was taken from the yards, and it is needless to say that each load would be worth three times as much as the leached straw which many of our farmers call manure.

Taking this year's transactions, we find the exact amount realized from the sale of fat stock to be \$3,858.70. Of this amount \$308.55 was for a pair of extra steers fed for the Easter market. These steers were taken to Montreal by Mr. George Webber and shown in the Easter Fat Cattle Exhibition of that city. There were about 1,500 head of cattle shown from all parts of Ontario and the Eastern Townships, yet one of Mr. Moore's

steers took the gold medal for the best fat beast on the ground, and the other would have taken the second only one exhibitor was not allowed to take more than one prize. As successful farming in ordinary circumstances in Ontario must in some way be associated with liberal feeding, we need not be surprised to find that when a prize of a \$100 was offered some years ago for the best crop of turnips, that Mr. Moore took it with ease against thirteen competitors, and from the report now before us, it is seen that they were nearly all left a long way behind.

The system carried out in feeding is to cut all fodder with the chaff cutter. Turnips are all pulped. This with meal and bran is mixed with cut feed and dampened. The cattle are given all of this feed that they will eat up clean. Great care is taken that no feed shall be left in the troughs after the cattle are done eating. Some seasons as much as 2,300 bushels of grain has been fed. Mr. Moore, like most good feeders, prefers peas to any other grain.

In buying cattle, Mr. Moore has a standing rule never to pass over a good steer if he is worth the money. When we were with him he had a nice lot for this winter's feeding, and was constantly on the look out for more.

The working force on the farm is three teams and two men the year round, and extra help when required. Married men who board at home are much preferred. He finds it in every way more satisfactory. In this we fully agree with Mr. Moore, believing that if married men were more generally employed on the farm, and comfortable cottages erected, the men allowed to board at home, and some little attention paid towards making life enjoyable for them, we would hear a great deal less about the troubles connected with having to have hired help. The system which is generally followed of boarding farm hands in the house is one which gives rise to a great deal of trouble in many ways, and the sooner it is changed the sooner we will get rid of one of the greatest annoyances of farm life.

This season's crop consists of 20 acres of fall wheat, 14 spring wheat, barley 15 acres, 11 acres of oats, 5½ acres of roots. Four of these latter are turnips and the balance carrots and potatoes, 4½ acres of grass for hay, the balance pasture. One field of fall wheat was very fine. This was of the Clawson variety, after clover-sod, deeply ploughed in July with skimmer plough and well worked with the harrows, and after harvest manured and ploughed in with light furrow and sown the first week of September. The other field was sown later and the crop was not nearly so good. Mr. Moore accounts for that entirely from late sowing. It might be mentioned that the headlands in the first fields were also late in being sown and the difference was equally marked. Manure is always applied on the fall wheat land. There is nothing specially to be said about the other crops further than that they were good and had been well put in. A large quantity of stuff is grown and a large quantity consumed, the result being that the land is in a high state of fertility, and although no hay is sold except when it reaches a high figure, yet this farm is in such a shape, that if the markets warranted it, Mr. Moore might any year take advantage of a high market and realize a large sum from his hay crop and the farm would not suffer much. This year there was about 140 loads of hay cut.

We might mention that at the time of our second visit the turnips were not nearly so large as we expected. This was owing to their having suffered badly from a hailstorm, the plants at the time being nearly destroyed.

From what has been said the reader will agree with us that Mr. Moore on his well managed farm, with its pleasant surroundings, and having so much that tends to make life enjoyable, should be a happy man. But this we very much doubt, for he yet lacks that one great element of happiness, and like some of the leading stock men further west, and who are now of more than Provincial fame—he is yet a bachelor. Bidding a hasty adieu to Mr. Moore, we hurried back to Peterborough, reaching the station just in time to catch the train for Port Hope. In the afternoon we went out to inspect

MR. WILLIAM NOBLE'S FARM—BRONZE MEDAL.

In the afternoon we went out to inspect Mr. William Noble's farm, township of Hamilton, county of Northumberland. It is situated about two miles from Port Hope, on

what was known in the old staging days as the Toronto and Kingston road. It is known as the "Chestnut Lawn," and was formerly owned by the late John Wade, and his son Mr. Henry Wade, the well-known Secretary of the Board of Agriculture and Arts. Mr. Wade was an advanced farmer in his day. In going over the farm we could see on every hand the thorough manner in which all the improvements had been carried out. The post and rail fences are built in the most substantial manner. The complete drainage of all the wet parts of the farm; the extensive buildings; the large amount of tree planting done. This, we were informed, was partly with the view of beautifying the property, and also for the purpose of experimenting, so as to find out which were the most suitable trees for soil and climate. The trees now growing comprise: English thorn, willow, elm, maple, chestnut, locust, and poplar, also a cedar hedge under which a drain was put before planting.

Mr. Wade's name is also associated with such men as the late Hon. Adam Ferguson, Thomson, and Howitt, as being amongst the first importers of thoroughbred stock in Ontario. As far back as thirty years ago stock from these herds were shown in Toronto. These men, while perhaps they did not make fortunes out of the business themselves, have had much to do in laying the foundation of that department of farm industry (the breeding of superior stock), for which Ontario is justly noted. And assuredly they deserve some credit for having been pioneers in that, which since their day has done so much to add to the material wealth of the land.

To go on with the description of the farm: it is divided by the road already mentioned, and comprises 240 acres. On the north side of the highway, the buildings are situated. The part on the south side runs to the lake. A good sized stream runs across the farm from the north-east to the south-west—the bed of this stream is smooth rock, but on no other part of the farm does the rock appear near the surface. Eleven acres are in bush—the balance is all arable land. Included in this are six acres of orchard, the greater part of which are fresh young trees.

The soil varies a good deal, but generally speaking may be said to be strong clay-loam with a hard subsoil, at about three feet from the surface, of limestone gravel. The fences are mostly post and rail, and board. The fences on either side of the private road have drains laid beneath the posts to keep them from heaving. The fences now being built are of wire, and \$125 has been paid this season for wire.

The barn buildings are extensive, the main barn being 137 feet long. The other buildings include stables, sheds, sheep-houses, implement house, etc., and they are situated near the stream from which the water supply for yards and stables is obtained. If we remember correctly we were informed that at one time the motive power for working the threshing and other machines used in the barn, as well as a saw mill, was obtained from the water of this stream. The dwelling-house is a nice-looking building surrounded by groves, lawn, and flower garden. The private road from the house to the highway is planted on one side with locust, and on the other with maple. The buildings are somewhat out of order now, and are under reconstruction. In fact this farm is just now in that shape when the first improvements which had been well done, but having been done a good many years ago, are now being removed.

The crops this year include fourteen acres of fall wheat after summer fallow—this is a good fair crop; eighteen acres of spring wheat after barley, looked well; twenty-four acres of barley, in this followed fall wheat, the land being once ploughed in the fall, and cultivated in the spring; fifteen acres of oats, partly after fall wheat, and partly after oats; seventeen acres of peas after sod; forty-three acres for hay; three acres of hoe crop, including mangolds, carrots, and potatoes, and the balance pasture. The usual rotation is peas after sod, followed by barley, then spring wheat seeded down—barley sometimes after fall wheat—fall wheat always after summer fallow.

From 30 to 40 cattle are usually kept. Not much is done in stall-feeding. The fattening being chiefly done on the grass. The flock of sheep comprised 25 or 30 grade South Downs.

The regular force for performing the work of the farm are two men, besides Mr. Noble's son. Three teams and a driving horse are kept. Speaking in general terms of this farm and its management we would say that it is an exceptionally fine-lying farm,

and looks well from any point; as it is seen from the road on the south side it rises gradually to the north. The fields with their hedge rows of thorn and willow, and the dark green woods crowning the highest ground on the north, show to fine advantage. If standing on the high ground looking to the south, the whole farm is seen in one view greatly sloping until the southern boundary is washed by the waters of Lake Ontario. It is, perhaps, all things considered, one of the most beautiful-lying farms in Ontario, and one of the best. It is, however, as a show farm where management has entirely to be dealt with, not in that shape necessary to make it appear to the best advantage.

It is, as already stated, as far as buildings are concerned, in a state of reconstruction, and while the crops would indicate that it is pretty well farmed on the whole, yet it is easily to be seen that the tillage is not of that thorough character so necessary to keep a farm as free from weeds as all well managed farms ought to be. And farther, we would say, that unless manure is drawn pretty freely from the town, or supplied in some other way, that the system of feeding at present followed is not of that liberal character which will be likely to keep up the fertility of the soil, and it is only a question of time when this exceptionally good farm will show signs of weakening.

However, this may be said, that Mr. Noble has been, and no doubt is a money-making farmer, and that he must be a man of more than ordinary executive ability. This will be readily understood when we state that up to last year he has managed successfully, besides this competing farm, another farm of 430 acres in the township of Haldimand, and all who know anything about farming, know that it is no easy matter to farm profitably and keep in good shape 654 acres, even when it is in one block, and it is still more difficult when these farms are twelve miles apart. For this reason, although not strictly in accordance with the rules laid down for awarding prizes, we would like to see Mr. Noble receive the Association prize of a bronze medal, and would recommend to that effect.

Leaving Port Hope late at night we reached Cobourg about 11.30 p.m. The next morning the usual routine on reaching a new place was gone through, that is, the livery stable man was interviewed—arrangements were made and we were soon on the road to Mr. Sylvester C. Isaac's farm. This will be a familiar name to most men in Ontario who have done much in the Short Horn business—Mr. Isaac being one of the well-known and successful breeders of Short Horns, and also a dealer and breeder to a considerable extent of Clydesdale horses.

MR. SYLVESTER C. ISAAC'S FARM.—SECOND SILVER MEDAL.

The farm lies east of Cobourg about nine miles, and three and a half miles from the Village of Baltimore. It comprises 214 acres, 200 of which are cleared, and the balance hard wood bush. Ten acres of this is on the west corner of the west half of the farm, and four acres on the north corner of the east half. This property is divided by the public road and is bounded on the north and south ends also by public roads. The land may be termed rolling, but not to such an extent as to make it all inconvenient to work. It is pleasantly situated with a fine view from the high ground. To the north are to be seen the sand hills of Haldimand which, even after the rains of the few days prior to our visit, looked parched and barren in the distance. To the south the view is still over the high lands of the same township on the one hand, and over Lake Ontario on the other.

The soil is an easy-working clay loam with a free subsoil, no draining being required. It is such land as is very easily worked at any season of the year when the frost is out. At the time of our second visit a large part of the stubble had been ploughed, and the ploughs were then at work, and not the least difficulty was found on account of the hardness of ground. The land over the whole farm is of a uniform quality, and being a capital clover soil—clover continuing in ground for two and three years, makes it an easy soil to keep clean and to carry out a regular rotation on. It is also a soil well adapted for growing corn, a crop which well takes the place of peas since the bug has been so injurious to that crop. Mr. Isaac places a high value on a good crop of corn for feeding purposes, and although a pretty extensive grower of turnips, and from being a feeder of good stock, understands well the value of a root crop, yet he considers a heavy crop of corn, such as he has this year, just about as valuable for feeding purposes as the same area of turnips.

At one time there was considerable stone on this farm, but this is now well cleared off. From what we saw we would not suppose that at any time it would have been what might be termed stony land.

The fences are better than the average farm fence, being well built rail fences with upright stakes fastened with wire, and all in pretty good shape. We have seen a good many different sort of fences in Canada during the last five years, and the conclusion we have come to is that for a good useful farm fence, all things considered, that the ordinary rail fence of lasting material, well made rails, and neatly put up with stout upright stakes fastened with wire at top, is a pretty hard fence to beat, and in regard to the very small loss of land, as compared with the stright fence, it does not amount to very much when figured up.

The buildings, including the dwelling house, are mainly on the west side, with a fodder barn and sheep house on the east. The dwelling house is fairly good, but not much can be said about the other buildings further than that they are not by any means in keeping with other things about the farm, and that the buildings are decidedly the weak point on this, as a competing farm. If the homestead was first class it would be a very hard farm to beat. Not much has been done in the way of planting, but the woodland is well preserved, and the dead timber is kept well cleaned up. There are also quite a number of second growth trees scattered about the fields chiefly butternut which answer well as shade trees in the hot days, and relieve the farm from having what it would have without them, a somewhat naked appearance. The field arrangement is as convenient as it could well be, there being a double row of fields on each side of the road, thus having easy access to all parts of the farm. The land generally may be said to be clean and free from weeds, although in fence corners and out-of-the-way places some thistles are to be seen, but the cleanness of the fields, as well as the appearance of the crops, would indicate high tillage and good farming. Some of the crops, especially two fields of spring wheat, appeared to have suffered considerably from frost and drouth at our first visit, but on the second occasion of our visiting the farm they were harvested. Mr. Isaac informed us that they had pulled up wonderfully and will yield well, a statement which we fully credit.

We might here remark that in doing this sort of work in past years, as well as from observation this year, it is very noticeable that upon these farms where a large quantity of stock is kept, and liberal feeding is the rule, that when crops from any cause receive a check in the early part of the season, they readily pick up and open out beyond the most sanguine expectation of the farmer himself. Whereas on farms where stock-feeding is but little attended to, and where land has been weakened by over-cropping, a check at any time means failure at harvest.

The grass for hay we considered a full crop and quite above an average, but we were told that this also had received a check from the frost. It was noticeable that as we neared the lake the clover was much better headed out. On our second visit we found that both on this and the other farms the clover which was intended to be cut for seed was very much injured by the weevil, and it was a question with the owners whether there would be enough seed to pay for the cost of cutting and threshing.

The acreage of the different crops was as follows:—Spring wheat, twenty-four acres, following peas and barley; eighteen acres of barley after corn and oats; twenty four acres of oats, partly on sod, and the balance second crop; twelve acres of peas after sod; seventy five acres of grass for hay, mostly clover; four acres of corn. At our second visit this, as well as the root crop, was exceptionally heavy, there being two acres of potatoes, fourteen acres of roots, chiefly turnips, and the balance carrots. Taking the hoe crop as a whole it was decidedly the best we had seen. It had been well put in, well attended to afterwards, and gave ample evidence of high farming and heavy manuring.

Besides the crops already mentioned, a quantity of corn for soiling is always grown. It is very noticeable that on all those farms where breeding or fattening of stock is carried on successfully pasture is never depended on solely for carrying the stock through the autumn. It is very bad policy indeed to allow the stock to lose in fall the flesh they have put on during the summer—or, what is even worse, to have the growth of the growing animals checked. It is equally bad policy to draw on the winter's supply of

fodder to tide over the summer months. However, those farmers who do not prepare for fall feeding do not often fall into the mistake last mentioned. They generally let them grub on the best way they can. From the quantity of clover grown, and the addition of green corn for soiling, it will be readily understood that at the time of our second visit there was an abundance of rich pasture, and a marked absence of that bare look which is the rule rather than the exception on too many of our farms at this season of the year.

The rotation ordinarily followed is to break up the sod for peas followed by wheat or barley, seeded down: oats after wheat or sod-roots, and corn usually after oats. Grass is seldom allowed to lay more than two, or, at the outside, three years. Stubble always ploughed twice in the fall, the first time shallow, afterwards ridged up deeply. This, with the thorough working in the summer, accounts for the freeness from weeds noticeable on this farm.

As a breeder of both horses and cattle, Mr. Isaac is well known among stock-men. At present he owns a very fine Clydesdale stallion, Premier, imported. For this horse last spring he refused \$2,600. He is a horse of great substance, stands well up, is showy, and has fine action. Last fall two mares with their foals and one yearling colt were sold to go to the United States for \$1,000. At this time there are two pairs of fine matched mares, one pair coming four years old and the other rising five, and another pair aged. They are kept as the working teams. Forty cattle is the usual number kept—twenty-five of these are thoroughbred, a good many of which are imported. Most of the last year's importations, as well as formerly, are from the herd of Sylvester Campbell, Kinellar, Aberdeenshire, Scotland. Amongst the last lot imported are some fine young cows, which now have calves, also three stylish yearling heifers. As may be expected from the breeding, the calves, including some young bulls, are a good lot. The imported stock bull is a dark roan, thirteen months old, with a good deal of style, and would be admired in any show ring.

The aim of feeding on this farm is to keep all the cattle in good breeding condition, and the young stock fleshy and growing, without any special pampering for the show ring. Mr. Isaac does not exhibit except at the home fairs.

The system of feeding, as may be supposed from what has already been said, is not to use largely artificial food, and with the exception of a little oil cake the food is mainly roots, hay and grain. Roots are cut and hay is uncut. Mr. Isaac's reason for cutting turnips is, that he considers they are safer fed in that way, and where high-priced stock is kept it is worth while saving their teeth, as they last longer when the roots are cut than when they always have to break the whole turnip.

Besides breeding, considerable is done in the way of fattening, from eight to ten cattle being stall-fed, and from forty to fifty sheep are sold to the butcher annually. Last year fifty sheep were bought in the fall at five dollars per head. These were fed until the middle of May and sold for five and a half cents per pound, at that time weighing 176 pounds. These sheep were fed on pea straw, clover hay, roots and meal, with the addition of about three-fourths of a ton of oil cake. Mr. Isaac, from his own experience, finds the benefit from the use of oil cake much greater in feeding sheep than in cattle.

Mr. Isaac having very kindly offered to drive us to the next farm, we readily accepted his offer. Our horse, which we had driven that morning nine miles, was left to rest, and we were soon on our way to the next farm. We found before we reached our destination that we were all the better off for having two horses and a gentleman to drive us who knew the road, as the farm would have been difficult to reach without making frequent inquiry on the way, and the road is an exceedingly heavy one. Between these two farms the land is poor and hilly, just such land as the farmer gets poor returns from for the labour expended. For our part, we think we would rather spend our days on the prairies of the North-West, with all its drawbacks, than wear our lives out on the sand hills of Haldimand.

MR. PLATT HINMAN'S FARM.

This farm is situated in the township of Haldimand, county of Northumberland, about three miles from Grafton, a station on the G. T. R. Only part of the farm was entered for competition. The part entered comprised 100 acres, twenty of which was

bush. The farm is fairly well supplied with water, chiefly from a creek on the west side. This stream runs through quite a ravine, and the land on either side being too hilly to plough is used as permanent pasture. Considerable planting has been done. The land appears to be fairly well worked, the hoed crops well put in and clean.

Cattle, with the exception of two or three pure bred Shorthorns, are ordinary grades. For the last two seasons some of the cows have been bred to a Jersey bull, and little duncoloured fellows are now appearing in the herd. Some milk is sent to the factory. About \$25 per cow for the season we were told was the average. It appeared to us a rather small return. The sheep are grade Southdowns. No definite standard appears to be aimed at in breeding.

As already stated, the farm entered is only part of the whole farm—the remainder comprises 114 acres, which is mostly very stony. Twenty acres of that which is entered is also too rough and stony to be used for any purpose but permanent pasture. Nothing further need be said about this farm than that there is not anything about the management calling for special notice.

Getting back to Cobourg about dark, we felt that we had done a pretty full day's work, we having driven thirty-two miles over a heavy road, and tramped all over two farms. One of your judges, who was new to the work, by this time had come to the conclusion that there was more real work in this farm judging business than he had figured on, and decidedly less fun. However, as we were exceedingly anxious to get through by the next night, so as not to be left at Kingston on Sunday, and also as we had written to Mr. Sharp, of Lennox county, that we would be at his place next morning, there was only one way of carrying out our programme, and that was to take the mid-night train for Napanee, due there at 12.50 a.m., but which on that particular night was an hour and a quarter late.

Next morning, or rather we should say the same morning, two strangers were to be seen on the streets of Napanee making inquiry for the whereabouts of the livery stables of that town. This was after vainly trying to get the hotel people to take the matter in hand and get us a rig, and after finding that the man who was supposed to have gone had never gone at all, and half an hour after was still loafing round the bar. As it turned out, perhaps after all we did not lose anything by waiting, for having seen the proprietor of the stables and explaining to him that we wanted to make good time, he took out a splendid team and drove us to the farm we were going to inspect, ten miles from the town, in less than an hour and a quarter, and being an intelligent man and knowing all about that part of the country, we found the drive after all very enjoyable.

MR. JOHN SHARP'S FARM.—BRONZE MEDAL.

Mr. John Sharp's farm is in the Township of Ernestown, County of Lennox. His property, which we went to see, is situated ten miles south-east of Napanee, on the Bath road, and about three miles south of the Kingston road. The farm contains 200 acres divided by the road. Each lot has a frontage of eighty rods on the road with a private road in the centre running to the rear of each farm. The field arrangement is very convenient, each field opening into the private road. The soil is a clay loam with a rather retentive clay subsoil. A considerable portion of the farm has required draining. The fences are fair, mostly either board or rail with upright stakes fastened with wire. The dwelling house and homestead are pleasantly situated on rising ground and show well from the road. The house is frame, well painted and nice looking. The grounds are well kept and trim looking. The garden well stocked with vegetables and forward for the season, showing 'unmistakably that they had received better treatment than the field crops. The orchard is large and well managed. The growing of pears is made somewhat of a specialty, and the varieties have been selected with judgment, growing only those suitable to soil and climate. The barn, which was being reshingled and put in good shape, is roomy and suitable, but the stabling was very meagre.

The principal crop grown is barley. Some seasons from two to three thousand bushels are grown. The other crops grown are spring wheat, oats, peas, corn and potatoes. Fall wheat only occasionally, and it is not considered a very safe crop. This year

at the time of our visit the crops looked somewhat stunted and backward owing, we were told, to the exceptionally long period of dry weather, there having been very little rain from the middle of May. Some of the land being rather inclined to bake has suffered more than a looser soil would have done, the weather having been more than usually wet about seeding time. The land on the north half of the farm is fairly free from weeds, and the other or south part is far from being what may be termed clean. In fact it is pretty badly covered with wild mustard, rather two many thistles, and some quack grass. It might be mentioned that the half of the farm that is clear of weeds and thistles has been owned and worked by Mr. Sharp ever since he began farming. The part that is somewhat foul is a later purchase, and the wild mustard and other noxious weeds were bought with it. This is mentioned so as to show that where Mr. Sharp has had the management of the land all the time he has farmed it in such a way as to keep it comparatively clean.

The stock comprises fifteen or sixteen cattle and twenty sheep. Very little is done in the way of fattening. This we think accounts quite as much for the backward state of the crops as either frost or drought.

That Mr. Sharp has been a money-making farmer we do not doubt, and that his system of field culture, as compared with others in that section, may be good we will not gainsay. But this we do assert, that it is only a question of time and that not very far to look forward to, when that farm or any other similar soil will become utterly impoverished under the system of farming that is followed there. That there are many good points about Mr. Sharp's farm management we admit, and further, we believe that in a measure he has been a successful farmer, but his land is now at that turning point when it would appear that the wisest course would be to turn more attention to the raising or fattening of stock, or in some way largely increase the manure heap. However, Mr. Sharp being the only competitor in Lennox, and as his farm certainly shows that a better system of field culture was carried out than appeared to be on the other farms that we had passed on the way to his place, we consider it only right that he should receive the Riding prize of a Bronze Medal.

MR. JOHN WILMOT'S FARM.—BRONZE MEDAL.

Mr. John Wilmot's farm, Township of Pittsburg, County of Frontenac. In the afternoon we went on to Kingston and drove direct from the station to the above farm. Crossing the Cataragui bridge, we had a pleasant drive of five miles on the Gananoque road. The land nearly all the way is very stony. On reaching Mr. Wilmot's we found his farm no exception. Most of the land on the front part is very near the rock. A great ravine runs across the farm, beautifully timbered. A somewhat costly and very substantial bridge crosses this gorge. This had to be built so as to reach the back part of the property. There is on this back part a barn and sheep house, and it is here that the best land is situate. At the time of our visit the buildings on the front of the farm were undergoing reconstruction. All wet land has been underdrained, and Mr. Wilmot appears to make the very best of a naturally hard farm to work. The work has been done judiciously, and good judgment has been displayed in laying out the farm to the best advantage. On all the rocky ground (and there is considerable) not a tree is allowed to be destroyed. There are about one hundred acres cleared. The crops were fairly good and the system followed appears to be one well adapted to local circumstances.

In conclusion, we would say that the farm competition this year may have done some good. We have tried, in describing the system followed by the successful competitors, to bring out the strongest points in the management of each. Hoping thereby that some useful lessons might be learnt, and well knowing that these farm prizes are not offered for the purpose of giving a few people in a particular district an opportunity of winning a prize, but to awaken in the minds of our farmers an ambition to excel in their particular calling. There never was a time in the history of this country, when it was more imperative that farmers should consider well the best methods to be adopted whereby they could realize the most from their lands. There never was a time when well trained farmers possessing a knowledge of the science and practice of agriculture were more needed. The day has gone by when little else than

industrious habits and the power of endurance were all that were required for a man to be a successful farmer. In the coming struggle the man with a thorough training in all that relates to the science and practice of agriculture is going to be the man who takes the lead.

That the lands in many of the older settled parts of Ontario are becoming impoverished through over cropping and bad farming is only too evident, and this at a time when the Ontario farmer has to compete in the British market with wheat grown on the vast wheat fields of India, raised with the cheap labour of that country; the immense supplies from Russia, and, coming nearer home, to the rapidly increasing surplus from the immense wheat area of our own great North West, and when with rapid strides a general railway system is opening up every grain producing country—enabling the producer in every land to become with us a competitor in the great consuming markets of the world.

That the farmer in many a worn out and impoverished farm will have great difficulty in holding his own is only too certain. And that the intelligent and progressive farmer who has not allowed his land to become worn out through excessive cropping, but has with his grain growing carried on stock raising and fattening to such an extent as to return to the land an equivalent to all that is drawn from it, will hold his own is equally certain. It is a question which only the future can decide, whether even good farming on the poorer lands of Ontario will be sufficient. That wonderful results can be brought about, and have been brought about, by heavy manuring and first-class husbandry, the records of other countries plainly show.

If we look to what has been done in England, we see that there the average wheat production per acre has been more than doubled through a higher system of farming. Clean culture and heavy manuring being the chief factors in bringing about this result.

There is one thing we may feel well assured of, and that is, that the way out of the difficulty is not in spreading our labour over more acres of ill-tilled land,—but rather in trying to produce by better farming larger returns from fewer acres.

Perhaps, after all, this period of low prices, as far as the Canadian farmer is concerned, may be the means of bringing about some good results. It certainly will, if it induces him to change to a method of farming whereby he can hold his own in these times of depression against the tillers of cheaper land, and against those countries where the price of labour is but nominal—and in this direction we hope that the report of this year's farm competition may be of some value.

Before closing we would take this opportunity of expressing our acknowledgment of courtesy and kindness to each and all of the families of the competitors. Wherever we went we met with kind-hearted hospitality.

All of which is respectfully submitted,

JOHN I. HOBSON, }
N. A. PETERSON, } Judges.

ESSAY ON THE PROFIT OF BREEDING, FEEDING AND FATTENING BEEF CATTLE FOR THE MARKET.

BY THOMAS SHAW, EDITOR OF CANADIAN STOCK RAISERS' JOURNAL.

To which was awarded the First Prize by the Agriculture and Arts Association.

The advances made by the live stock industry of the Dominion during recent years is simply astonishing, inasmuch that it promises in the near future to overshadow every other agricultural interest, if not, indeed, all of them combined. According to the last published report of the Bureau of Industries for Ontario the total value of cereals grown in all the Province was but \$63,415,305 in 1883, while that of live stock was \$99,882,365. The value of these cereals decreased as compared with 1882 some \$26,266,760, while that of live stock increased \$19,341,645, the increase in the respective numbers being horses, 56,529; cattle, 255,371; sheep, 109,937, and swine, 56,591 head; the whole number in

the country that same year being, horses, 560,133; cattle, 1,818,054; sheep, 1,868,784, and swine, 906,727 head, out-numbering the entire population of the Dominion. Nowhere, however, in the chronicles of our rural life do we find so rapid an advance as in the shipment of fat cattle to the British market. The progress in this, which promises to be a most gigantic trade, sounds more like fable than reality, when we call to mind that the first shipment from our shores was made as recently as 1874, and consisted of some 455 head of fairly fattened cattle, while now, but one decade from that date, it is expected that fully 60,000 head will cross the sea this season, and many of them of that class that do honour to the shambles of old London or indeed of any market in the world. The Council of the Agriculture and Arts Association of Ontario is therefore to be congratulated on the wisdom shown in the selection of a subject so vitally important, for the essayist of 1884, when they ask him to write on "The Profit of Breeding, Feeding, and Fattening Beef Cattle for the Market, founded on practical experience."

We have also to thank that representative body for the good sense shown in not limiting the word "experience" to that of the essayist, but, on the contrary, granting him the privilege of gathering materials from the rich and matured experiences of the cattlemen of every land, these being the results of years of the most patient toil and closest observation; giving him also the opportunity, if so disposed, of weaving these into one harmonious whole, with a careful eye to their adaptation to the conditions and requirements of the soil and climate of our own country.

We have concluded to avail ourselves of the license granted, and have accordingly interviewed some of the leading breeders, feeders and cattle shippers of our Province. By a close comparison of the testimonies of these men weighed carefully in the balances of deliberate judgment, we have been able to ascertain several important points bearing on the subject that may be considered as decisive, while other features thereof, where uniformity of practice, and consequently uniformity in judgment have not been reached, we have so separated, that henceforth we may surely confidently hope that the cattlemen of to-morrow will so rivet their attention upon these unsettled points, that ere very many years elapse the determined in the breeding and management of cattle for beef shall be so eliminated from the undetermined, that the unskilled shall have a very safe instructor in the recorded experiences of the cattlemen of yesterday.

It must be conclusively apparent that the experience of one individual breeder and feeder can only determine that on his farm such and such conditions led to certain results, while on his neighbour's farm, where the conditions varied, the precise application of his methods would undoubtedly lead to results somewhat different. It must be equally clear that the exact experiences of one country can never be selected as certain data on which to ground any course of action in another country where the conditions vary ever so little.

There are certain general principles, however, physiological and otherwise, that hold good in every land. So far as the determining of these is concerned, testimony from other countries is not only admissible but helpful.

In the prosecution of our inquiries we take it to be our principal duty to bring out clearly, so far as in us lies, the most applicable principles that relate to the "breeding, feeding, and fattening of beef cattle for the market" in our own country, grounded on the experiences of a number of the foremost cattlemen thereof, made up of those distinguished in the breeding, feeding, and shipping lines.

As we understand it, the hinge joint of the essay is the word *profit*, which will require other lubricants than we possess to make it work well. Here it is that the bull must be taken by the horns, but it will only be to get an angry toss, for, if the Council expect the essayist to determine the *degree* of profit, precisely, resulting from even those methods on which there may be a consensus of opinion this year, they ask a hard thing, as next year some variation in the prices of grain, dependent on the clouds and sun, may so disjoint said methods as to cause not a little variation in results. Even in the same season results from uniformity of method so far as such can be adopted in one country, may be different from those in another, as the former may produce both roots and corn—those valuable adjuncts of the fattener—while the latter may produce but one or the other, or indeed neither.

The judges at the Fat Stock Show, held at Chicago, November, 1883, tell us in their

report in regard to the cost of production that it is possible in Illinois to raise a fat beast aged 1,222 days, weighing 2,445 pounds, at a cost of 8.774 cents per lb., as in the case of the grade Shorthorn steer Mammoth; that in Indiana an animal 801 days old, weighing 1,135 pounds, can be raised at a cost of 5.125 cents per lb., as in the case of the Hereford heifer Hattie; and that in Illinois a steer 623 days old, and weighing 1,160 lbs., may be made ready for the butcher at a cost of 4.61 cents per lb., as was done in the rearing of Mr. R. J. Stone's grade Hereford steer Stonington. This, however, by no means determines that such could be done by the same men another season, when the variation in the cost of feed might be ever so little, or, in case the animal to be fed were naturally of a more or less thrifty character, much less would it determine the cost of producing a beast of equal weight in Ontario, where the rental of land varies from that of prairie acres, where the quality of the grasses vary, and where the price of labour may vary more still.

The principal advantages arising from offering premiums at our fat stock show in reference to cost of production are not so much to enable us to get at the exact profit in any instance as to enable us to determine :

- (1) The possibilities of achievement in this direction.
- (2) The grade or cross best adapted for this purpose.
- (3) The diet most conducive to the furtherance of the desired object.

Results in themselves of vast importance in their bearings as regards the production of butchers' meat. We get no assistance from the Smithfield of England in determining the degree of profit, as the utmost accomplished by that great fat cattle show in this direction is its giving to the world that certain breeds and crosses of cattle attained to such and such weights, at the ages mentioned. Nor do the fat stock shows held in our own land give us any light, as no premiums have been offered, so far as we can learn, at any of these having reference to the cost of production.

To determine the exact degree of profit, close account of the cost of feeding would require to be kept, including material and labour, from the day of birth until the date of sale. Even then we would have but an approximation (though it might be a close one), as anterior breeding and the providing of accommodation would form factors in the computation. We have been able to receive no such data. As the years roll on this will no doubt be forthcoming, since intelligent cattlemen in this inquisitive age are no longer content, like the atheist, to wander in the dark; but the exact degree of the profit of certain beef-producing experiments will not even then have been ascertained, as the very next season the same experimenters might arrive at somewhat different conclusions. The degree of profit is, however, modified by conditions which the cattlemen can in part control, but which at the same time may not be absolutely essential to uniformity of plan. For instance—(1) A cold stable or a warm one, unventilated, are adverse in a marked degree, while there may be endless diversity as regards plan of such a structure, these requisites must receive careful attention. (2) While no two barns need be constructed exactly alike, there must be an eye to convenience of facilities in caring for the stock, as where two men are required to do the work of one, this must tell seriously on the amount of profit. (3) Where the utmost attention is not given to the breeding of a certain style of cattle, and a reduction is made of even half a cent a pound from defection in this particular, although the weights are up to the standard, this also tells severely on the amount of profit.

Then, again, how is it possible to use definiteness where the results cannot be determined in a single year? That scientist is yet unborn who is to tell to the world the exact value of the manure made by a single animal in any year, viewed in relation to the different varieties of crops that it will produce, and the quantity of these! Especially as the results will extend over a term of years, and the profits come back again in form determined—in part only—by the rotation practised by the beef-producer.

Where, then, shall we find certainty in this matter and when? We reply, exact certainty never can be reached while the grasses vary in the degree of their succulence, or the seasons are fitful in their productions, but an approximation sufficient for all practical purposes will soon evolve from the numerous experiments as yet unmade, when the veil of the very near future is laid aside. The agreement of the largest number of these experiments, on the safe principle of majorities ruling, will point in the direction of certainty.

For the present, then, we look upon this matter as undeterminable. But while unable to fix upon the exact degree of profit resulting from the raising of beef cattle, there is no difficulty whatever in showing that the judicious breeding and fattening of beef cattle for the market, where continued for a number of years by our landed proprietors, has proved in the recent past one of the most profitable, if not the most profitable, of agricultural pursuits.

The twelve gentlemen composed of a number of the foremost breeders, feeders and shippers in the land, interrogated by us in regard to the matter, and whose names are given below, assured us with one voice that it was the result of their observation—in some instances comprising years of experience in the work itself—that those farmers who were most largely engaged in the production of beef were beyond comparison more prosperous in almost every instance than their grain-growing neighbours: a verdict that we would like to see inscribed at the gateway or over the portals of every grain-grower in our young country. Nor was there any hesitancy on the part of this jury in bringing in their verdict. It came with all that spontaneity that bespeaks a settled conviction that leaves no room for doubt, or even hesitation. They tell us we can trace this greater prosperity in an ever-increasing crop production, improvement of farms and outhouses, the rapid rise of land in every beef-producing centre, and in many other ways. True, it is reaching a conclusion by a short-cut rather than by sequence of reasoning, but it is in that manly way that men can afford to adopt, who are conscious that their senses do not deceive them. If the great Paley is lauded for using similar testimony, that of the senses, in establishing the genuineness and authenticity of that grandly important document the New Testament, that forms the charter on which hang all our dearest hopes, we may be excused for citing a similar class of testimony in reference to the profits of raising cattle. We may add that the result of our own limited observations points precisely in the same direction, hence we conclude that while we fail to show the exact degree in this Province of profit resulting from the production of beef in a single instance, we have already made it clear that hitherto beef-producing in the general has been very profitable, an end that is unquestionably of much more value.

We think it is clear, then, that we are shut up to the adoption of the embodiment of the practical experience of the most successful beef-producers in our country, adding the concurrent testimony of leading shippers, that there may be no misunderstanding regarding the type of animal to be produced, and to the giving in patient detail the methods now practised by those cattlemen from the day of selection of the sire and dam until the offspring of such are ready for the market, *since those methods are assuredly considered the best by the parties who practise them and hence the most profitable.*

Our information, as given below, was the result of a personal interview with each of the parties named, in the obtaining of which we were necessitated in some instances to make a journey for the purpose.

The feeders and breeders interviewed were Prof. Brown, of the Experimental Farm; Mr. John Hope, of "Bow Park," Brantford; Mr. James Hunter, of "Sunnyside," Alma; Mr. Henry Groff, Elmira; Mr. Peter Rennie, of Fergus; Mr. Jesse Snyder, Floradale; and Mr. Jacob M. Brubacher, all of Ontario, and whom, for the sake of convenience, we shall designate our *feeding* council.

The shippers interviewed were Mr. G. F. Frankland, Toronto, Mr. Ira Morgan, Oshawa, Mr. C. M. Acer, Montreal, Mr. John Black, Fergus, and Mr. A. E. Goodfellow, of Guelph, also of Ontario (one excepted), whom we shall call our *shipping* council. It will be seen that these councils comprise a number of the most successful men in their respective lines. We did not pitch upon these men because we thought them absolutely the best representatives in their respective lines, but that we felt they were amongst the best; lack of time preventing our calling on many others, whose additional testimony would have been of much value, and whom we would have been only too glad to interview.

Observe the qualification of these gentlemen, fitting them to speak with authority. A number of them commenced life in the wilderness and by hand to hand conflict with its giants have cleared the lands on which the cattle graze that they have sent seaward to command the admiration of British butchers, whose eyes have feasted on the annual wonders of their own Smithfield, and hence these have well studied *what is profit.*

The shippers are men who have often found their gain or loss to turn upon an eighth of a cent per pound, and are thus well competent to say *what profit is*.

In breeding, feeding, and fattening beef cattle for the market for profit, not a little depends upon the nature of the market, whether foreign or home; although the general principles that underlie the profitable production of beef cattle are similar, there may be a variation of some details which are not unimportant, especially in the management during the second year. The first year we think the treatment should be similar in the main, as during that period the scaffolding of every cattle beast is erected, hence we shall, after the period indicated, treat of their management separately, but not up to that date. While we concede that an animal acceptable to home buyers may be rejected by the foreigner, we hold that the animal under present conditions acceptable to the foreign buyer, is that style of beast that will be most in favour with home buyers, so soon as the days arrive that we confidently believe are fast approaching, when Canadians will not allow all their best beef to go to the support of John Bull in his island home.

First, then, we shall treat of cattle intended for the foreign market, and next for the home market.

FOR THE FOREIGN MARKET.

If there was any one point on which both councils were more unanimous than another it was this, that *there is little or no profit in producing beef from, or in the handling of, inferior grades*. We believe it would richly pay the Canadian Government to have this verdict inscribed on every door sill of the mixed husbandry men from Vancouver to Cape Breton. The feeders will not stall feed such cattle, but send them by the nearest byway to the shambles, nor do the shippers want to touch them, as the handling of them has always resulted in shrinkage of the pocket. They are the rightful property of the three cent per lb. butchers, whose customers seem to have an amazing fondness for skinny beef.

The loss here to vast numbers of our farmers is very great, and to the country at large it is simply enormous, as the ungraded and low graded cattle are still overwhelmingly in the majority. We have not a shadow of a doubt but that the value of the stock at present in Ontario could easily be doubled without the addition of a single head to the number of eaters, and in a very few years. This would add to the wealth of the country at least \$100,000,000, and would involve an outlay of but a few thousands in the purchase of improved sires. Mr. Snyder has got as good weights from the high bred Durhams at two years as from the common sorts at four years, and Mr. Rennie has in some instances realized *three* times the profit at three years, when experimenting with the two classes. Our feeding council are quite satisfied that these cattle require *more* feed to keep them for a given time than good grades, while they fall a long way behind in their capacity to take on flesh. This accounts for the not unfrequent conclusions of the feeders of such, that fattening cattle is not attended with profit. What a splendid per centage of profit would flow in upon the cattlemen if they would but part with their scrub bulls and patronize only pure-bred sires of a high order! The reasoning is surely conclusive that if mixed husbandry farmers live (which they do) while raising these three cent. per lb. cattle, they could not but realize handsome profit somewhere from cattle which will give a greater weight at equal ages, and which will sell for six cents per lb. live weight.

The Best Breed for Shipping.—Things being as they are, the feeding council are in favour of fattening high-bred Shorthorn grades or pure-bred Shorthorns, where suitable animals of this class may not be used more profitably for breeding purposes. It should, however, be remembered that this agreement only determines that the grade and breed above mentioned have proved themselves the most suitable animals for the above purpose up to the present in this country, as, owing to the limited number of the other pure beef breeds, we have found it impossible to get conclusive testimony in regard to their merits as beef-producers. They have hitherto been almost entirely picked up for breeding purposes to go to foreign parts. In Britain the Herefords and Aberdeen Angus polls have not unfrequently shorn the Shorthorns of their honours, while in America in recent years the Herefords have been constantly gaining ground at the Chicago Fat Stock Shows, yet,

even then, it is worthy of note, that the Shorthorns usually gave greater weights at a certain age.

The above testimony must tend to shake the common idea that a grade animal is equal to, or superior to, a pure bred for beefing purposes, which is still further shaken by the remembrance of the recent triumphs of the Black Prince, of Geary Bros., London, and Clarence Kirklevington, of Bow Park, in the Chicago Fat Stock Show rings, and those of Mr. Groff's steer Champion in Ontario, all of which were pure-breds. Mr. Hunter's experience has been, that pure-breds fattened more easily than grades in fitting for past show rings: hence, we think it wise on the part of all beef-producers to grade up their cattle as rapidly as possible, until that brighter day dawn when we can afford to fatten mainly pure-bred cattle. In regard to strain the Booth is the favourite with many, as they are said to have a smooth outline, with more of a rounding form and happy uniformity than some other strains, while some think the Scotch cattle more suitable owing to their blocky build and fleshy propensities. We do not look upon the point as being fully determined; a more extended experience with the different strains is necessary before reaching certainty. A favourite cross at present from pure-breds for shipping is the offspring of an Aberdeen Angus bull and a Shorthorn cow, but here also we must patiently await the results of further experiments.

Character of the Sire.—This is a great matter in the production of beef cattle. The bull should possess a fine expression of countenance, with a full bright eye. He should have a rather small "well put on" head, medium skin, and a good coat of fine silky hair. He should be short in the neck, fine in the bone and tail, and leg in proportion to length of carcass, which should be easily kept covered with a wealth of flesh. He should be "well ribbed up" and straight and broad on the back, possessing a masculine appearance, without coarseness. By all means avoid "flat ribs, long legs, and long neck." Where the beef-producer does not possess such a beast, let him go a dozen miles rather than breed his cows to one of lower standard. Have nothing at all to do with an ill-favoured bull.

Character of the Dam.—This, too, is a great matter. It is well also if the dam take on flesh readily. Her head should be neat with horns somewhat fine, and neck not too long. She should possess a sloping shoulder, which gives smoother outline, a straight back rather a shade rounded than depressed, or, in other words, full in the loin. She should excel in both fore and hind flank, straight on the side from shoulder point to twist, short in the leg and long and deep in the hind quarters. We meddle not with the unsettled point as to whether the cow must be a good milker. If she add this also to the above qualities, so much the better, but do not attempt to breed beef cattle from a raw-boned coarse-haired dam, whatever her character may be as a milker.

Character of the Beast intended for Shipping.—It should, if possible, inherit the good qualities of sire and dam, especially in aptitude to take on flesh, should possess length and good depth of carcass with much thickness of flesh, carrying the greatest wealth of this in the best parts, as the crops, the loin, and the hip. It should have medium fineness of bone, with a soft glossy and nice handling skin, straight above and below, deep through the heart, and standing on legs rather short. It should possess smoothness and symmetry of outline, with gentleness of disposition—on the principle that restless men never grow fat—it should also be a good feeder, but not a gourmand. If the animal does not fairly approximate to this ideal, either send him off early to the butcher or sell him to the cattleman, who persistently shuts his eyes to the advantage of breeding an improved class of stock, taking what can be got for him at an early age.

Treatment of the Calves. The feeding council do not agree as to the time when it is most suitable to have the calves dropped. Mr. Groff fixes upon April, the Messrs. Snyder and Brubacher on March, Mr. Hope from December onward, Messrs. Hunter and Rennie, December and onward, and Prof. Brown, September and onward. Our impression is that as these gentlemen are agreed that cattle should be made ready to ship as near two years as possible, the former gentlemen fixed upon that date which would best accord with a high standard of feeding, and the latter that which would best suit those not so well up in the art. If the cattle can be got ready for shipping by May month when two years old, we can see that there is economy in having them dropped in April, as then the cows

are more cheaply wintered while carrying the calf than if suckling the same; although cows should be fed with a liberal caution before calving, but never a large quantity of stimulating meal, which is apt to give rise to difficulty with the udder after parturition. The cows should be in fairly good condition at the time of calving, and that quantity of non-stimulating meal only should be fed to them previously, that will suffice to accomplish this end.

When dropped in March or April the calves will wean nicely in September or October, as the council are agreed that they should be weaned at from five to seven months' old. At this season the cows can be readily dried, and the calves take greedily to their food, owing to the increasing coolness of the weather.

The calf should remain with the dam for the first four or five days in a loose box-stall, but removed at night for fear of over-laying. We have known valuable animals lost in this way. After that period they should be taken away from the dam and allowed to be suckled three times a day, for say a month, and then twice a day, and but once a day when weaning commences, at which time the grain feed for the calves should be considerably increased.

Calves thrive much better when kept in a stable or in a shed darkened during the time of flies, and plentifully supplied with bedding, the advantages are that they worry the cows and themselves less and learn to eat sooner, all of which induces more rapid growth. When about six weeks old they are fed a little bran and oats, at first as much as they will eat at once; when learned to eat freely they should be fed direct what they will eat clean, of bran and peas, or bran and barley, the grain well boiled, otherwise ground or crushed, which should be continued in an increasing ratio until more than one year old, or the arrival of the second summer; when roots can be had, they should be fed a moderate quantity, sliced, during the time of root-feeding, otherwise oil-cake will form a valuable adjunct, or indeed in either case. In time of green food, as clover or corn, it should be carried to them. They should also be supplied plentifully with fresh water twice a day in winter, and three times a day in summer, and a sufficient quantity of salt.

The prominent idea is to keep them pushing ahead with a judicious haste from the day of birth onward. Observe, our feeding council are unanimous in their advocacy of keeping the calves in the first summer, and grouped in box stalls and graded according to age and sex.

Mr. Hope suggests a plan that will prove invaluable to the butter dairyman. The calves can be hand-fed new milk from birth until six weeks old, then skim milk, into which is put one-half-tea-cup-full of flax-seed, after the latter has been soaked several hours and afterwards boiled three-quarters of an hour. This should be put into the milk when warm, which tends to bring the latter to a suitable temperature. The quantity of the boiled flax-seed may be increased to half-a-pint and may be given once or twice a day as the calves may bear it, along with the other food ration as described above, or when approaching one year they may get five pounds of crushed grain, one-half ground peas and the other half crushed oats, adding two pounds oil-cake per day; when younger the quantity fed should be proportionately less.

We have dwelt thus carefully upon the management of calves, under the firm conviction that right management here is one great factor in the beef producer's success; neglect during the first months can never be overcome by after management, however careful.

Treatment During the Second Summer.—A judicious patience should be exercised in regard to turning out in spring, which should not be attempted until the grasses are abundant and the weather warm. Our feeding council favor the continuance of a small ration of grain feed during the summer, once or twice a day, housing after the middle of July during the day unless the shade is most ample and leaving out at nights until these begin to get cool. After the period of housing commences they are fed during the day, on the principle of the soiling system, American corn being a principal factor. Prof. Brown and Mr. Hope advocate pasturing for a longer term, with the aid of permanent pastures.

Treatment During the Second or Finishing Winter.—(1) Housing. They should be permanently housed from the time of the pastures drying, but say not later certainly than

declining October days. The stables should be kept clean and well littered throughout, and at a temperature, according to Prof. Brown, 40° to 50° Fahrenheit.

(2) Fodder. Early cut clover hay is preferable, fed in three feeds per day, and only what the cattle will eat clean on each occasion. Mr. Rennie feeds hay five times a day, Mr. Hope prefers the hay from mixed grasses.

(3) Grain Feed. Mr. Groff feeds about equal parts, oats and peas, or peas and barley, ground, say one gallon per day to each fattening beast, along with a quantity of bran, say one gallon is poured over twice its bulk of cut feed in a box, as cut hay, corn stalks and pea straw, or chaff, as may be at hand. He adds "Thorley's Improved Cattle Food" to this, one-fifth pound per day each, also salt. He pours over this a quantity of well-boiled peas, about one and one-half quarts for each per day, with the water thereon, which also contains a small quantity of flax-seed boiled with the peas. This is then covered and left to ferment for some hours, and fed three times a day. A small quantity of molasses is also poured over the feed before the boiled peas is added. Messrs. Snyder and Brubacher feed twelve quarts per day per head, of equal parts oats, barley and peas ground, with some middlings added, fed on cut feed or chaff in three feeds. Messrs. Rennie and Hunter feed ten quarts per day in three feeds to each beast, of equal parts of bran, peas and barley meal, mixed with cut feed and dampened either with cold water and allowed to ferment, or, better still, with boiled flax-seed and barley and the liquid in which these have been boiled. Prof. Brown's rule is to feed of bran, oats, barley and peas, or corn, in conjunction or partially so, about one pound per day to every one hundred pounds of live weight possessed by the animal, and in three feeds per day. Mr. Hope feeds in three feeds four pounds of crushed oats, four of ground peas or corn, the former preferred, and four pounds of oil-cake to each beast per day, the meal having been previously mixed with cut feed and steamed.

(a) Let it be observed that these quantities apply rather to the close of the finishing term than to its commencement; as the proportion of the stronger grains should continually increase up to a certain limit, as the season goes on, as well as the quantity of the entire mixture, it is clear that at first considerably less than the above quantities will suffice.

(b) The feeding council consider oil-cake a valuable adjunct during the second winter, when it can be got at the rate of \$28 per ton and under, and all use more or less of it in feeding. From two to four pounds may be fed per day. Mr. Hunter sometimes uses instead, one pint of ground linseed meal per day, or a small quantity of boiled flax-seed.

(c) The advantages assigned for the feeding of the meal upon cut feed are that the digestion is more perfect, consequent upon the rumination that follows, and that it lessens the danger from over-feeding, which in any case is followed by a period of stagnation and much loss, which necessitates the exercising of a constant vigil and slackening of the feed the moment any indications of loathing are observed.

(d) The kinds of grain feed, and the proportions, should in a measure be determined by the price. A favourite mixture, all things being equal, seems to be equal parts of bran, oats, barley, and peas, or corn, about ten quarts per day toward the close of the term, with three pounds of oil cake added, for a beast weighing 1,200 pounds and upwards.

(e) The average amounts fed must be departed from and increased or lessened with the capacity of the animal to utilize the same.

Roots.—Our feeding council give of these from one-half bushel to one bushel per day, in three feeds. Some feed whole, others slice them, and Mr. Hope feeds one and a half bushels pulped, along with the cut feed and the meal. The favourite quantity seems to be one peck at each of the three feeds, where turnips cannot be grown successfully, mangolds often can; where both fail, boiled peas or boiled barley will make an excellent substitute, in part at least, so that fattening beef cattle may still go on profitably in regions unfavourable to the growth of roots, though, perhaps, not so successfully as where these will grow.

Water.—This should be plentifully supplied once a day, where but a moderate quantity of roots is fed, and oftener where none are fed. All the better if it can be supplied in the stall from some outer source.

Exercise.—A few minutes exercise is said to make them stand the shipping voyage better, and is therefore not unimportant. They should only be let out about midday, and not at all when the weather is rough.

Attention.—The most unremitting attention should be given beefing-cattle from the first; they should not only be kept well littered and clean, but will thrive all the better if curried once a day. It is well to clip the tail on the approach of winter. Gentle usage and humane treatment are greatly advantageous, while the utmost regularity should be observed in providing them with feed.

Prices.—The average for three years past has been about $6\frac{1}{2}$ or $6\frac{3}{4}$ cents for really first class animals in the spring, those only medium bringing from $5\frac{1}{2}$ to $6\frac{1}{2}$ cents per pound, live weight.

Shipping.—The favourite time for turning off is not later than the middle of May, or when from two years to two and one half years old, beyond which age they can only be kept at a doubtful profit. They should then weigh from 1,300 to 1,500 pounds, live weight. It is hazardous to keep them beyond May, as the markets later on become less firm, the labour of tending in the busy season can be ill afforded, and the gain in hot weather is less proportionately. The arguments in favour of turning off cattle, as soon as it can be done to advantage, after they have turned two years, are (*a*) they can be made fully ripe at this age; (*b*) their flesh being more tender, takes the market better; (*c*) the returns come earlier, and (*d*) there is a great saving in feed, as from what has been said, it is clear that with judicious feeding a gain of two pounds per day is quite possible for the first two years, while after that age our feeding council say that the average gain will be much less, although the cost of keeping up what may be termed the vitality of the animal is the same or even more. The additional labour must also be taken into the account. This precisely accords with the experience of exhibitors at the Chicago Fat Stock Show of 1883, where the one year steer awarded first prize for early maturity, made an average gain of 2.74 pounds per day from birth, the two year, 2.21 pounds, and the three year old (an extraordinary steer for size) made an advance of but two pounds per day from birth. In the four year old class the greatest gain amongst the prize winners of the show was 1.70 pounds per day, and amongst the five year olds, 1.04 pounds. The awarding committee in the early maturity class write words of great moment when they say in their report, that "the figures clearly demonstrated that the greatest profit results to the feeder in marketing cattle at an age not exceeding twenty-four months."

All testimony that we have been able to gather upon the subject points in the same direction. Mr. John Milne Mains, of Lathers, Turriff, Scotland, has been experimenting in regard to the relative increase of live weight to age. He experimented with the utmost care (the work extending over a term of four years) with three lots of calves, under six months, numbering forty six head; seven lots of cattle from six to twelve months old, numbering one hundred and twelve head; ten lots from twelve to eighteen months, numbering one hundred and thirty eight head; nine lots from eighteen to twenty-four months, numbering ninety eight head; and eight lots from twenty-four to thirty months, numbering sixty six head, numbers sufficiently large, and extending over a time long enough to give approximately sure results. These are as follows:—

The calves under six months old more than paid their keep; those from six to twelve months paid twenty-three per cent. over their keep; the lot from twelve to eighteen months seventy per cent. over their keep; those from eighteen to twenty four months showed somewhat of a loss, which was still further increased in the lot at from twenty-four to thirty months. This makes it clear that in Scotland, at least, the largest profit from cattle raising arises from turning off when approaching eighteen months. Of course here we must have them heavier to suit the shippers, the cost of transit to them being as much for a light beast as for a heavy one. We regret the weights were not given in the pamphlet kindly sent us by a friend across the sea, who assures us that Mr. Mains is a most "intelligent and careful gentleman." The same record (from which we have just quoted) makes it clear that the average increase made by the Shorthorn steers under two years, at the Smithfield of 1883, was 2.20 pounds per day up to 678 days, from that period up to 997 days those a year older gained but 1.49 pounds per day; while the lot coming four years between 997 and 1,342 days gained but .66 pounds per day in the

interval, that is, assuming that the three-year-olds and the four-year-olds were of the same weights as the younger ones at 678 days, while the writer takes for granted (and we think rightly) that the older animals cost the most for their keep.

At the same show thirty-five animals—cross-bred steers—made an average increase up to two years of 2.08 pounds daily; forty-nine animals from two to three years gained 1.35 pounds per day; and seventeen head from three to four years gained .55 pounds per day. Hence, the animals under two years made an average gain per day of nearly four times as much as that made by animals of similar breeding during the period intervening between the ages of three and four years. Proclaim it, ye heralds of glad tidings, in the home of every farmer and cattleman in the land, that animals can be got ready for the market with a much larger margin of profit in the neighbourhood of two years, than at any age beyond, when properly fed and cared for from birth. True, in this country, certain weights must be reached, which for a time may baffle the skill of the average farmer to attain, yet, it should be fully understood that even now thirty months should be the outside age in getting a shipping beast ready for the market, and that the degree of profit continually lessens after the two years are past. In this we see the wisdom of that advocacy of early maturity in stock, in which not a few of our cattlemen of late have taken so prominent a part. The truth is that in two years it is possible to accomplish that for which most men now require three years. Our cattlemen are paying one-third of their feed and giving one-third of their labour, as either the price of ignorance or indifference.

Profit beyond Manurial Value.—Professor Brown, in the Experimental Farm Report for 1882, assumes that in rearing beef-cattle there is no direct profit above the manure, made and places a value upon the manure which some have thought too high, but which in coming days will, we believe, be looked upon as not so far astray. In this instance the other members of our feeding council are united to a man. Their decision is unhesitating when they say “there is a profit in the rearing of beef-cattle over and above the entire outlay in addition to the manure.” This is a point of immense importance, for although the manure is in itself a handsome revenue, as we hope to show further on, many of our farmers will work diligently for a small cash margin, and yet place but little store on the most liberal manurial revenue.

Manurial Value.—Most that can be said as yet on this point is somewhat conjectural, yet even the conjectures of half a dozen intelligent farmers are of some value when they point in the same direction, and relate to matters within the range of experience. The great difficulty consists in determining the exact value of the manure. We feared difficulty in determining its quantity, but happily Mr. H. H. Hurd, a painstaking feeder of Hamilton, Ontario, came to the rescue, and gave us such help as enables us to estimate with approximate correctness, the amount of manure a cattle beast will make in the first two years of its life. This gentleman carefully weighed the manure made by a number of his stall-feeding cattle, during the finishing term in 1883 and 1884. They were supplied with oat and barley straw for litter, which soaked up the liquids. It was found that the amount of fresh manure thus made in a day was ninety pounds by each beast, or nine and a half tons in the seven months. The animals were more than two years old, but we assume that those equally heavy, but a year younger, would make nearly as much manure during the last seven months of their existence. To this amount, say nine tons, add, say five loads, for the five months previous, and say ten loads the first year, as estimated by Messrs. Rennie & Hunter, and we have for the two years twenty-four loads, as a ton makes a load. Messrs. Groff, Snyder, and Brubacher put the value per ton at \$1.50; Messrs. Rennie & Hunter at \$2.00 per ton the first year, and \$3.00 the second year. Mr. Hurd would not sell the manure at \$2.00 per ton. By the first valuation, one cattle beast at two years would produce in manure a profit of \$36.00, by the second estimate a profit of \$62.00. Striking the mean between them we have a profit of \$49.00 on each beast. If there is a profit, as our council say, in addition to this, breeding and fattening cattle for the market is assuredly a paying business when rightly done.

Future Cattle Supply.—This is an interesting question, and one of much importance. Hitherto men alive to the profits of the business purchased most of their stock from their less wide-awake neighbours, who furnished them at about three cents per pound live

weight, which price has now gone up to about five cents for the same class of stock, thus narrowing the margin for the feeder very much, the advance price from the shipper being much less in proportion, inasmuch that now many feeders must content themselves with a limited supply. Our council concur in the opinion we have held for some time, that when feeding becomes more universal, every feeder must to a large extent raise his own stock; even now the largest profits come from this class of cattle, which brings up the interesting question as to how many animals can be turned off yearly from 100 acres of land, without purchasing anything beyond bran and oil-cake.

Our council place this number at six head or under at first, which may be gradually increased till ten head may be kept with ease, owing to the ever-increasing productive capacity of the farm, and all this without the purchase of fertilizers. This would necessitate the keeping of but thirty animals to the 100 acres, of the bovine kind, which is practicable with the help of the soiling system. The number of farms of cleared land in Ontario, allowing 100 acres to the farm, is about 100,000; granting that but one in every five becomes the success in cattle raising indicated above, and what is the result? Why, 200,000 cattle leaving our shores every year, and bringing in the magnificent revenue at present prices of, say, from \$16,000,000 to \$20,000,000 annually, and requiring a fleet of at least 150 sail to convey them from our shores every month for four months in the year.

Caution to Beginners.—A word of caution to beginners will not be out of place, as the stock now in the hands of an overwhelmingly large majority of our farmers will not give results such as we have stated. There are but two methods occurring to us which can be adopted. The first is to buy a good pure-bred bull of the type depicted, and grade up the cattle to the required standard through cows now in possession. The second, which is by far the most speedy, but involves more of present outlay, is to buy up first-class, well-graded cows, and breed from these. As the former is the course that most of our farmers will be prone to adopt, we ask such again to look well to the character of their bulls. We cannot too surely impress upon the minds of beginners the absolute necessity of keeping animals rapidly pushing ahead from the day of birth. One period of stagnation may largely destroy the profit, as when the cattle cannot be shipped in May, when turned on grass they must be finished on grass or held over till three years old. If finished on grass they must henceforth sell at a less price, coming into the market in competition with cattle from the range, as we shall see below.

Testimony of the Shippers.—We shall now give a *resumé* of what our shipping council have to say on the subject. It is clear that the class of cattle most sought after by the shipper is that class which it will be to the feeder's interest to produce. It is therefore highly important that there should be agreement here. We deem the following the most important items relating to the shipping department, so far as production is concerned.

The Favourite Shipping Cattle. (1) The breed.—As the shippers can only speak authoritatively, mainly from past experience, and as stated heretofore, up to the present almost the only cattle offered have been high bred Shorthorn grades or pure bred Shorthorns: these of course are as yet the favourites, nothing arising from the nature of the demand having as yet necessitated their seeking after either a different grade or cross. Mr. Acer, however, is of opinion that the Hereford or Aberdeen Angus Poll grades will come high into favour, owing to their fleshing propensities. Mr. Goodfellow thinks well of the Hereford loin, as also of their early maturing tendencies. But the Durhams are as yet the favourites with our shipping council, owing to their heavy weights and good shoulder and ham.

(2) The style of animal.—The shippers prefer a pure-bred beast, or one so well-graded that there is no mistaking its breeding. It should possess a good, broad, firm chine, plump and well filled buttock. A solid cod which indicates plenty of fat inside, and a well filled firm flank. It should be broad in the back, deep through the heart, should possess a good neck vein and a good broad chest—not leggy nor coarse in the bone, and covered with a loose-handling skin, coated with soft silky hair. These conditions have been hitherto, on the whole, best answered by the Durhams and their grades. Although the Aberdeen Angus are in much demand in Britain for the quality of

their beautifully flecked and tender meat, and also on account of the superiority of their hides, the Herefords also being in good demand. In the absence of sufficient experience in the handling of the two latter breeds and their grades, the balance of evidence from our shipping council is as yet decidedly in favour of Shorthorns and their grades. The style of animal depicted above is that most sought for by the old country butcher, whatever its breeding may be. It is very important that all roughness, either in framework or finish, be avoided. A trim-built beast, even maiden heifers weighing 1,200 pounds, will sooner catch the eye of an old country buyer than a rough beast carrying 200 pounds more flesh, early matured cattle being given the preference.

(3) *Weights.*—The outside limit for the weight of a shipping beast is set down at 1,600 pounds, the inside limit 1,200 pounds, the favourite weight being 1,400 pounds, as a beast at that weight will dress 100 stone (eight pounds to the stone) which weight seems to cut to the best advantage.

(4) *Age.*—The younger the animal the better, providing the above weights are attained.

The Handling of Inferior Grades.—There is perfect unanimity of opinion here, with one voice the shipping council say there is no profit in handling inferior grades, common cattle, or even average cattle; the loss where such has been attempted, has in many instances been equal to the cost of shipping.

Season for Shipping.—From this country it should commence with the first of May and end with the first of August, as (1) during this period there is less risk from ocean storms, (2) the markets are better in Britain, as after the last-named date the tenant farmers are often necessitated to put their grass-fed cattle upon the market to make up their rents, and (3) the animals thus shipped land in better condition, as, after midsummer, the cattle are shipped from off the grass and do not stand the voyage so well. Mr. Frankland, speaking from an experience extending from 1874 and onwards, remarks that, "lost might be written on every shipment made after 14th August."

Stall-fed Cattle.—The shippers say most unhesitatingly that they prefer stall-fed cattle for shipping, for the reasons, (1) That they are better in quality, possessing more of firmness, and also of internal fat. (2) They shrink much less than grass-fed cattle during the voyage, weighing in Britain almost as much as when they leave our stables, less the five per cent. allowed for shrinkage, and (3) they preserve what may be termed the bloom in their appearance, as the change of diet, on the way is not material. This bloom has a powerful attraction for the English buyer.

Grass-Fed Cattle.—This class of cattle may do well for home consumption, but for shipping for profit from Ontario our council cast the ballot unanimously against them. In order to ship them with any chance of profit to the shipper there should be a difference of from one and a-half to two cents per pound in the price. Hitherto this difference has not been made, hence the loss to shippers in handling these cattle in the past. When taken from the pastures to the ship their flesh is soft, and, owing to the violent nature of the change in their feed from sweet grasses to dry hay, they lose the beautiful gloss which so attracts the purchaser while in their native pastures. By the time they arrive in Britain this is entirely gone, and succeeded by a dull, harsh coat, which repels rather than draws the merchant who deals in prime flesh. Then there is that further objection, that their great shrinkage cuts in most ruinously upon the profits. Even though fed grain while on the grass, they will not ship nearly so well as the stall fed cattle. Mr. Acer thinks that a fair fall trade might be done in shipping this class of cattle as stockers, providing they could be purchased at paying prices. This might be well for the shippers, but would it be so for the farmers? We must pronounce in favor of keeping such cattle at home, and finishing them here, as we want manure more than do the men of Britain, who have ransacked the globe in search of manure, in addition to their having drawn large stores of the same from earth, and air, and sea; but we are decidedly in favor of Mr. Acer's further idea of bringing large lots of store cattle from Manitoba, where, we have reasons for believing, they cannot be so well finished as here, owing to present lack of facilities for stall feeding, and the adverse influences of the winters. The length of the continuous journey required in the transit on the cars is also in favor of finishing such cattle here. The grasses of that country are already proverbial for their muscle-producing

pr parties, hence the cheapness with which they will be furnished from these endless plains, providing a supply for our professional feeders, who can not fill their stanchions from the fields of men who are daily growing wiser at home.

The Outlook for the Future.—If there is any one point on which shippers are more agreed than another, it is on that relating to the probable continuance of the demand for shipping cattle of the right class. They not only look for this to keep up, but expect it to grow, as the amount of meat hitherto sent from our shores is a mere fractional part of what is required in Britain. So long as the slaughter of our cattle at the port of landing is not exacted, our shippers will continue to realize from \$7 to \$8 per head over those equally good from other countries not enjoying this happy immunity. Were infectious diseases to break out amongst our herd, it would not be easy to conjecture what disaster might overtake the fat cattle trade, and, therefore, the necessity and wisdom of exercising the most unrelenting vigilance all along the line, on the part of those who guard our shores. Misfortune here would turn the tide of our live stock shipments into the dead meat trade, which never has yielded returns equal to those from that in live stock, owing to the imperfections in the facilities of transit, and the fact that the less valuable portions of the carcase, as head, tail, etc., sell for a much larger sum in Britain than here.

Profits to the Farmer or Feeder.—Mr. Frankland considers the manure is sufficient remuneration to repay the outlay, both for feed and labour, to the professional feeder.

Mr. Morgan says unhesitatingly the lands of farmers who feed are worth from twenty-five to thirty-five per cent. more in consequence of the feeding of recent years, in addition to other gains. Mr. Morgan has the advantage of having been a feeder as well as a shipper, and is, therefore, all the better qualified to give testimony as above.

Mr. Acer considers the stock farmer the only class of such who make money in quantities at the present time on the entire continent.

Mr. Black is satisfied that while all judicious feeders are doing well, farmers who raise their own cattle are now doing the best.

Mr. Goodfellow can tell the cattleman's lands from the great luxuriance of his crops, passing judgment simply from driving along the highway, the difference is so apparent.

Some Particulars Affecting Shipments.—The shipping council do not positively condemn feeding steamed food to cattle intended for export, but feel somewhat shy in regard to the propriety of confining them exclusively to such a diet. The tendency is to make the flesh less firm, and therefore should be indulged in with a prudent caution. (2) Exercising the animals daily when practicable most assuredly aids them in standing better the fatigue of the voyage. This is one reason why American cattle stand the shipping better. (3) Animals docile in their nature ship better than wild, nervous creatures. (4) Kind and humane treatment on the way are of great importance.

By a careful comparison of the statements of the feeding and shipping councils, it will be seen that there is practically the most perfect agreement in regard to (1) the breed or cross as yet most popular in this country for shipping purposes, viz., the shorthorn, or high-grade shorthorn. (2) The style of animal to be produced, the great essentials of which are in substance (a) a good, low set frame, with comparatively fine bone; (b) a great aptitude to take on flesh readily, and most on the best parts, and (c) a neat and stylish appearance, including a silky, glossy skin, and absence of all roughness in every part. (3) The advantages of early maturity. (4) The desirability of stall-feeding for best results. (5) The most suitable time for shipping; and (6) the profitable nature of the business for the cattle raiser at least. In no one essential of any importance is there a difference of opinion. This argument is all the more remarkable, when we reflect that those gentlemen were in the main interrogated separately, and as they embrace no less than twelve (a complete jury) of the most experienced and competent of the cattlemen in the Dominion, we may fairly conclude that we have given the best "method of breeding, feeding and fattening cattle" for the export trade as yet practised in this country, and hence it must be the most profitable method, and is at the same time not simply "founded on" but solely made up of the results of practical experience.

THE HOME MARKET.

It remains, however, for us to investigate the method of preparing cattle for the home market with a view to profit. This may be done to a large extent by means of grazing, except, of course, during the winter. The gentlemen interviewed on this matter were Mr. L. E. Shipley, Greystead, near Ailsa Craig, a member of the Council of the Agriculture and Arts Association of Ontario, and Mr. A. Rawlings, of Forest, for many years a successful farmer and grazier in his neighborhood, and one of the foremost, if not the first, in practising as well as advocating with an untiring zeal the growing of mixed grasses of a permanent character. These gentlemen shall form our grazing council. Our farmers are regretfully slow in awakening to the full importance of such grasses as factors in cattle raising, both in summer and in winter; but the glimmerings of the dawn have already appeared, which we shall fondly hope is the harbinger of cloudless day. We have not even a shade of doubt as to the importance of mixed grasses in cattle rearing. These have been grown successfully by Mr. Rawlings and a few others in advance of their day in utilizing the so often wasted or unlocked elements of earth and air, thus furnishing conclusive evidence that mixed grasses can be grown successfully on some soils at least, though it remains yet to be shown which are best adapted to their growth. The dry character of the months of August and September render it a matter of prime importance to have a succession of grasses growing on the same pasture, each coming into its prime at a season somewhat different from the other: so that when the July suns have parched the June grasses and sent others of the earlier varieties to their summer hibernations, it is possible to have a succession of others kindly shading their quiet resting-places, and possessing the freshness of the bloom of morning, each in its season, until the autumnal rains shall wake their sleeping comrades, which again shoot forth to furnish abundant supplies to the grateful herds, which find alike bed and board amid their constant luxuriance. If a succession of these grasses are essential to successful cattle raising amid the fogs and damps of Britain, they are assuredly much more so in this drier clime: hence what Professor Brown and Mr. Rawlings and a number of others have long been advocating and practising in regard to this matter should be urged upon our farmers with an opportunity that will take no nay, as it will be found to have a powerful bearing on the profits of the cattlemen. Those with drier soils should at once be up and doing; those with undrained, soggy lands alone should wait till to-morrow. We may seem to have assumed that graziers furnish cattle alone for the home market. In coming days we conclude this will be the case, as will be shown further on, but it has not been so in the past, as the shippers of Ontario have often purchased this class of cattle, but, as we have seen from their own confession, most generally to their sorrow. They tell us this cannot be in the future, unless they get them at a price which is not much in advance of ordinary butchers' meat. These cattle can be furnished in at least three different ways:

First.—By that method practised by Mr. Shipley and others in his section. These gentlemen purchase their cattle about the first of May, in such places as they can get them and at such prices as the holders will take. They are usually coming three years, and weigh from 1,100 to 1,200 lbs., and are turned off about the end of September; when they weigh, say from 1,400 to 1,500 lbs. When purchased, they are at once turned upon rented pastures, with abundance of water and shade, and get no meal or but a little once a day, which if given, should be fed in the morning, as otherwise the cattle hang round expectant during the day. The soil of these pastures is clay loam. They sell usually for five cents per lb. live weight. They feed on lands at a rental of \$4.00 per acre, an average of three acres being allotted to each beast. There is no difficulty here in ascertaining the profit. The net gain in weight (300 lbs. \times 5 cents, the selling price) \div (the original weight 1,100 lbs. \times 1 cent per lb., the difference between the buying and selling price, putting the former at 4 cents), less (\$12.00, the rental of 3 acres) = (a net profit of \$14.00 per head less the labour of attendance, which is trifling where no meal is fed). Where meal is fed, the above gain, with no better returns, would lessen the profits by the cost of the meal and of feeding it, but it is presumable there would be some difference in the returns, whether enough to repay the outlay is at least questionable.

The *Second* method is that practised by Mr. Rawlings and others in his vicinity. These gentlemen purchase the cattle in the fall, at two years past, for from $3\frac{1}{2}$ to 4 cents per lb., which are fed during the winter on a mixture of oat straw and corn run through a chaffier, stalk and cob, morning and evening. The Michigan Dent corn is preferred. Hay is fed at noon; some add one gallon of meal per day, which is continued until the time of shipping. No roots are fed. One acre of pasture not closely eaten the previous fall should be reserved for each beast, upon which they are turned to graze in the spring as soon as the land ceases to be parched. They are left out at first but a few hours in central day, and fed as above, morning and night, till they refuse to eat of this ration indoors, after which they are left out altogether. The exact profit here is not so clear, but there can be no doubt that it is considerable, since the cattle have sold for 6 cents per lb. in July and August. If cattle can be purchased in autumn at $3\frac{1}{2}$ cents per lb. and sold the following July for 6 cents, there can be no question about the profit of the enterprise, which prepares us for the statement of our grazing council when they tell us that in the past each of these methods has been profitable.

The *Third* method is that practised by individuals in various parts, who keep their cattle well during the first year and also through the second summer, finishing them by stall-feeding until Christmas, and selling for good prices for home consumption. We believe there is money in this, as these cattle are sold before they reach three years, and usually at good figures. The chances are that the profit would be still greater if they were forced on rapidly and sold when approaching two years, as shown by the arguments cited above in favour of early maturing. The party who waits till his cattle are four years before turning them off, we have good reasons for believing feeds all his profits and something more.

The class of animals hitherto used in grazing as similar to that referred to in the shipping department, mostly of the Shorthorn grade. Although, from what we read of the merits of the Herefords as grazers, we are strongly inclined to pronounce in their favour, which view has been further strengthened by recent observations, whilst visiting most of the Hereford herds at present in the Dominion. Until pure-breds can be had in sufficient numbers, past experience has taught some of our Hereford cattlemen that crossing the Hereford bull with a Shorthorn grade cow gives an excellent beast for grazing purposes. During the visitation just referred to, we were surprised to learn from the owners that many of the plump, smooth and highly fleshed animals that we looked at had been given no grain during the past winter, hence we do expect the white faces soon to take possession of many of our grazing farms.

The important and somewhat controverted question now faces us, Is it through this channel that our profits in beef production are principally to come in future? Unhesitatingly we say, No, not in Ontario. Our reasons are: (1) We have already said in effect that our Province, so wonderfully adapted to a mixed husbandry, is thus eminently fitted to be a finishing country for shipping cattle. The shipping council have said to us that the graziers' finish does not fully answer their purpose at past prices, having paid a heavy tax already for their temerity in shipping grazing cattle. (2) The supply of cattle for the professional grazier cannot come much longer from within our borders, for the reason (given above) that the professional feeders' supplies are being cut off. (3) According to the "first" method of fitting cattle by grazing, also given above, now that the shippers are taking a stand, cattle are put upon the market when it is usually lowest, so that whatever profits there may have been in the past, these are not so likely to continue. If extensively adopted, finishing on grass would flood the country with cattle at an unpropitious time. We, in Ontario, possessing grazing lands worth \$50 per acre can never hope to compete with our neighbours who have soil equally well adapted to the purpose at \$10 an acre and less, not only in the Western prairies, but also in the grazing meadows of Manitoba and the North-West Territories. (4) According to the "second" graziers' method, considerable attention and labour must be bestowed upon the cattle in winter, which must be carried on in part far into the next summer months. We see no real advantages in this case over the method of the stall-feeder, unless in the saving of labour in raising roots and in the great supplies of feed furnished by the corn. To be sure, these are gains very considerable. (5) Then, there is that grandest treasure of the farmer, of more value to him than

hoarded gold, the manure heap, which we believe can never be so cheaply made as through raising stall-fed cattle. When buried in the earth or spread upon its surface with judicious haste, no other servant of the farm does work so well or gives returns so certain. This never can be done so well through grazing, where a torrid sun and thirsting atmosphere eliminate much of its virtue.

The first and second methods of the graziers, referred to above, may be continued so long as those who practise them can secure cattle at prices which will give them fair returns, but not a moment longer. It has been to their profit hitherto, so it may continue for a time, but it has certainly not been for the profit of those who have furnished the cattle to either the grazier or the stall-feeder.

In providing an article of export, it is usually for the best interests for the country when such article is handed directly from the producer to the exporter, hence, when every farmer mainly provides his own grazing and stall-feeding stock, the profits will be more evenly distributed. The professional feeder may then, perchance, draw his supplies from Western climes, greatly to the enrichment of his country, and we shall fondly hope of himself as well, which cannot be done by the grazier. Thus, we are shut up to the conclusion, that while grazing may be practised with great advantage—on not too extensive a scale—in furnishing supplies for the home market, the main supplies of the future for shipping must come from stall-fed cattle, and that, as the highest profits from stall-fed cattle shall come from such as go across the sea as a rule, the grazier must soon look for his returns mainly from the home market.

So far, therefore, as we have been able to obtain the evidence, we have given what we consider the best methods of raising cattle for the home market, that are now practised in Ontario, which, if the best, must at the same time be the *most profitable*, and these methods are also *practical*.

We desire simply to add that whatever may be the result of this effort in a competitive point of view, if it only prove instrumental in doing something toward staying but a portion of our farmers in that suicidal work of impoverishing their lands, by graining them to an extent so alarming, and carrying all the products to the market, and in persuading but a few to give increased attention to the safer and more profitable work of producing beef, we shall have been abundantly repaid for the labour expended in the preparation of this very imperfect production, on the grandly important theme, "the profit of breeding, feeding, and fattening beef cattle for the market, viewed from a practical standpoint."

ESSAY ON THE PROFIT OF BREEDING, FEEDING AND FATTENING BEEF CATTLE FOR THE MARKET, FOUNDED ON PRACTICAL EXPERIENCE.*

By JOHN CAMPBELL, JR., WOODVILLE.

To which was awarded the Second Prize by the Agriculture and Arts Association.

The part of the farmers' business, which is the subject of this essay, is one which during the past few years has grown very rapidly in importance, and if it could be shown to all the farmers of our Province clearly and beyond doubt that it is profitable, and that upon it very largely depends the success of our business, then the future agricultural prosperity of our country would be assured. There is no doubt that the "breeding feeding and fattening of beef cattle for the market" can be carried on with profit when done in an intelligent, systematic manner, yet in many sections we find this line of farming either totally neglected, or everything, from the mating to breed to the finishing for market, done in such a careless slipshod way as to leave no room to doubt that direct loss is the result. In order to make this branch of our calling a success, we must begin right, closely attend to details, and trust nothing to luck. We will take each division or part in order as placed in our subject.

* NOTE BY THE SECRETARY. This gentleman did not know when writing his essay that the Council had rescinded the words "founded on practical experience."

BREEDING.

All successful breeders must have a distinct object in view. In this case our aim must be to mate a certain class of cows or heifers with properly selected bulls, so as to produce stock that will upon feeding and fattening give us the largest returns when all the outlay is deducted from the prices realized. We should always bear in mind that the first rule in breeding is "that like begets like." Therefore in selecting a bull we should aim at securing that in which the qualities necessary in a good bullock are prominent, and which is *pure bred*. It does not follow that pedigreed cows can be profitably bred from, with the view of producing stock to rear for the fat cattle market, as their calves when dropped are generally worth as much as they would bring at maturity as fat cattle. We must then choose from common or grade cattle those females of good size, fine smooth form, which show a disposition to lay on flesh when liberally fed, and are, or promise to be, at least *fair milkers*. The produce from such selecting and mating of males and females, we may confidently expect to be such as will, with proper care until *fit* for the butcher, be a source of profit and also pleasure. We will here notice a few of the many mistakes made by breeders.

One will take scrub cows (which have had any good qualities they might originally possess starved out of them) to his neighbour's fine pure bred bull, and expect to breed a calf fit to grow and fatten.

Another, and a worse mistake, is when a good class of cows are mated with any scrub bull, because he is convenient and the service free. It would pay at the end to drive a good cow ten miles and pay ten dollars for the use of a first class bull than use a scrub bull on any condition. Another class of farmers will select a bull (perhaps to mate with fine grades) that is well formed, thick fleshed, etc., in fact appears to be all that is desirable, but is only a grade. Some of his get will probably make good bullocks, but there certainly will be many culls, so many that it is not safe to run the risk of using such. There is yet another class which we must not omit to notice, and they are what might be called the *fastidious farmers*. They must have pedigree, and it must trace away back very many generations. They would not take a bull as a gift unless his pedigree is registered in the latest herd book out, that pretends to have its standard for registration higher than any preceding one, and yet at the same time the animal may be but a miserable cull, with hardly a good point about him, one that should never be used if satisfaction and profit are looked for. As the bull is very properly said to be "half the herd," a proper selection is of the greatest importance, and the character of the herd is to be considered in making a choice. If the cows are large-framed and inclined to be coarse, a medium sized, fine-horned, smooth, compact bull should be selected, but if they are of fine quality and under size, then a larger fleshy sire should be chosen, even if inclined slightly to coarseness. We think it folly to use a bull unless his purity of breeding is beyond question, but fully as unwise to take as a sire one which is deficient in those points which we wish his get to possess, let his breeding be ever so perfect. Our ideal of a bull is "a good animal and a good pedigree." A good animal, in this instance, would mean one of fair size, broad straight back, deep chest, the ham carried well down to the hock, well sprung ribs, short neck, fine head and bone, soft mellow skin, a good coat of fine hair, and withal fleshy. A good pedigree would mean that he has been bred from pure-bred ancestry for a sufficient number of generations as to render him prepotent to transmit his good qualities to his produce. We have at present in our Province three breeds of beef producing cattle, viz., Shorthorn, Hereford, and Polled Angus, and time alone will tell which is the most suitable for our climate. The cows having been served so as to have the calves come during the first months of the year, the next step is to give them proper care during gestation. They should be dry at least four months in order to have the calves strong and thrifty. They should be warmly housed, kept in fair condition, not over fed with grain or roots, and for a week previous to calving, and also for some days after, the feed should be lessened to prevent fever and garget.

FEEDING.

The calves when dropped should be regarded as the foundations of as many machines to convert the raw materials, hay, straw, chaff, grain, roots, etc., into the finished products, beef and manure. The object is to build or grow a large healthy frame in as short a period of time as circumstances will permit, always keeping in view the doing so at the least possible expense. From birth a steady growth should be maintained, and that more especially during the first year, for if then stunted the loss of growth can only be recovered at a far greater expense than that at which a continual increase of size could be kept up. Some farmers allow the calves to suckle their dams during the whole season, and it may be that, where labour is high-priced, land cheap, and calves forced on to early maturity, or intended for the show ring, it might be profitable, but we think it too expensive a mode for general use. That which has given us the best return, taking cost into consideration, has been to allow the calves to suck for a few days, then wean and feed warm milk from the dam three times a day for three weeks. Then warmed skimmed milk is added, or rather takes the place of a small portion of the new milk at first, but is gradually increased for two weeks, when the new or whole milk is withheld, and gruel made of sifted ground oats takes its place, it being mixed while hot with the skimmed milk to warm it, and fed twice a day. The oatmeal is sifted but for a short time, as the hulls are apt at first to irritate the bowels, and cause scours. The addition of a small quantity of flax-seed meal in the gruel improves it. Pea-meal is next added in gruel and steadily increased in quantity, so that when four months old the daily feed for each is two gallons milk, one pound ground oats, one pound pea-meal, and all the clover hay, grass, or green corn, that is readily eaten, and also water within reach. At this age the milk is withheld, but a little meal and bran is fed dry, mixed in chaff, or cut clover hay, still continuing the warm gruel. Calves thrive better while fed from the pail if kept housed in loose boxes, but when six months old they do well on nice grass, with plenty fresh water, and a daily allowance of one and a half pound oats, half pound pea meal, and one pound bran. From this time until they are fit to put into the stalls, or on the grass to fatten, the treatment for profit may greatly vary under different circumstances. The farmer owning first class tillable land will find it his best policy to keep his calves growing rapidly, so as to fit them for the fattening stalls at twenty months, while another, having a large portion of his farm not very fit for cultivation but good for grass, will find it more profitable to carry on his cattle slowly during two winters, having them ready to begin fattening at the age of two years and eight months. In December, 1882 Mr. Gillett, of Illinois, made public a statement showing that two year old steers gave him a profit of \$50.00 each, while the three year olds gave only a profit of \$18.00 each, all being the same quality and fed the same way. It may be asked, how will it pay in the one case to mature early, and not in the other? It is very evident that if on one hand an acre of land is worth \$80.00 and will graze a bullock during the season, while on the other hand an acre is worth but \$40.00 and will do the same, that it costs twice as much to graze on the former as on the latter. Again, the winter feed is grown at a much greater expense on the poorer land, with perhaps hay excepted, so that winter feeding is more expensive. Therefore, while the treatment during calfhood must be somewhat the same, that during the remainder of the growing period may differ, and yet, taking all into consideration, each in its place may be the most profitable. As already stated, the aim should be to secure the greatest growth and weight at the least expense. When conditions are favourable, we fully believe in pushing cattle rapidly forward; and, returning to the calves, and winter approaching, we will consider how we can attain our object. Sometimes such an injudicious use of expensive food is made, that the value of a grown bullock is not equal to cost of production. It is the growth of bone and muscle that is wanted, and not the laying on of fat, therefore clover hay, chaff, ground oats, bran, roots, etc., must be fed in sufficient quantities to maintain a steady growth. When treated in this manner until grass is again ready, they will weigh, at the age of fourteen months, 850 pounds, and have cost as follows:—

Value of calf at birth	\$4 00
Milk during four months	9 00
Meal during first six months, 200 pounds	2 00
Pasture during fall	1 00
Meal and bran for eight months, 600 pounds	5 00
Hay for six winter months, 600 pounds	2 40
Roots for six winter months, 50 bushels	4 00
<hr/>	
Cost at fourteen months	\$27 40
Pasture for six months	4 00
<hr/>	
Cost at twenty months	\$31 40
And weight	1,000 pounds.

The feed is charged at market prices, less cost of placing it there had it been sold, in this as well as in all calculations throughout. There is no charge made for straw, chaff, or labour, as these should be charged against manure. At this point cattle often change hands, so that we must see if there is any balance of profit for the breeder and raiser who disposes of them. These smooth, growthy, well-bred bullocks will readily sell at 3½ cents per pound live weight, or \$17.50 each, so that after deducting actual cost, a balance of \$6.10 remains. As the calf at birth is worth \$4.00, and when stalled at twenty months \$31.40, it would be equal to \$17.70 invested during the whole time. Then it follows that \$6.10 balance is a trifle more than twenty per cent per annum on amount invested, with a quantity of first-class manure left on the farm, which much more than compensates for expenses not included in account.

FATTENING.

There are two systems of fattening cattle, viz., on the grass, or in the stalls. While fattening on grass is being practised largely in some western sections of our Province, yet it appears to be more as a separate line of farming, and does not fit in so nicely with mixed farming as stall-fattening does. The handling of grass-fed cattle seems to be an uncertain business for dealers, as Mr. Frankland, one of the leading exporters of Toronto, expresses his views of it in the February number of *Stock Raisers' Journal* thus:—“That all grass-fed, even though assisted with a liberal allowance of grain given them in troughs in the fields, shrink very much, and lost a great deal of their weight, besides losing their bloom—which is a very important factor of their success—in comparison to stall-fed altogether on roots and grains, and that large sums of money had been lost, not one year, but every year, by this serious shrinkage, and that it was a mistake to handle cattle off the grass with the idea of getting first-class beef prices. This is the country to feed them, and while farmers believe they can take straw yard steers in the spring and put them on grass, and with the help of a little grain make export cattle by September, they may depend on it that exporters will suffer, and eventually give up the great risks they have continually to encounter.”

Having had no experience in grazing, we turn to stall feeding. The successful manufacturer does not rest with placing in his mill or factory first class machinery, but he also supplies the different kinds of raw material which will at the least cost give the best finished product, and that in sufficient quantities to keep them running to their full capacity, and also sees that all are kept in good order. As with his machines, so it should be with our bullocks. From birth their capacity should have been constantly enlarging, so that when placed in the feeding-stalls they really are, or should be, first-class machines to convert our raw materials (the produce of our farms) into finished animal products. A certain amount of food is required to support their frames, and it is only the food consumed over and above the quantity that when digested is stored up in the body in the shape of flesh and fat. From this it is clearly seen that the larger the quantity consumed and assimilated in a given length of time, the less in proportion will go to

supply the natural waste, and the increase of weight will be correspondingly greater. There are several things which require close attention during the fattening period, such as—first, food; second, regularity; third, cleanliness; fourth, warmth; fifth, ventilation; sixth, gentle treatment.

1. *Food*.—The food most suitable during the growing period is not equally as good for fattening. The object then was to secure bone and muscle principally, now fat is mainly wanted. Food in which fatty matter is abundant must be added, such as pease, corn, flax seed, or oil cake. It is impossible to say which of these is the best to feed, or to lay down any cast-iron rule, as values vary greatly in different places, and at different times. $5\frac{1}{2}$ lbs. peameal, $4\frac{1}{2}$ lbs. ground oats, 2 lbs. bran, 40 to 60 lbs. mangolds, and clovery hay fed daily to a well-bred bullock, 1,000 pounds weight, will increase his weight at the rate of 2 to $2\frac{1}{2}$ pounds per day. The meal and bran should be mixed, divided into three feeds, and when fed should be again mixed with chaff or cut hay. Mangolds fed whole morning and evening, and all the hay that will be eaten at night. While roots are necessary, some feeders rely altogether too much upon them, and feed in such large quantities as to make feeding expensive, and the increase in weight will be little or nothing. They will feed two bushels of turnips per day for several months, with chaff and straw, giving some meal during the last month to "finish them up," as they say. Let us count the cost of such feeding, and see if it can be profitable. In the Nova Scotia Agricultural Report for 1865 in table prepared from English, German, and American authorities, it is given that 100 lbs. of superior hay is equal in nutritive quality to 803 lbs. of swede turnips. Then two bushels of swedes are equal to fifteen pounds hay, which with chaff and straw may keep a bullock at his original weight, but there certainly can be little or no advance, and yet the cost is \$4.80 per month for turnips at eight cents per bushel, and the manure produced is only second class. If only one bushel was fed daily, and the value of the other expended in meal and bran, how different the result would be at the same expense. This is but one instance (out of many) of injudicious and wasteful feeding, but space will not permit us to notice others. We hope no one will misunderstand us, and get away with the idea that we place little value on roots to feed to cattle when fattening. On the contrary, we think that forty to sixty pounds fed daily are a great aid to digest more solid food, tending to keep the bowels regular and the bullock healthy.

2. *Regularity in feeding*, and also in watering, are of the utmost importance. Cattle when fed at the same hours each day, lie down quietly after each meal (with other proper care) to rest, and as each feeding hour comes around they are up and at their feed with keen appetite. When the feeding is done irregularly they are always uneasy, and upon a door opening, or hearing any one moving, they become restless, as they expect to be fed when approached, and so by their unquietness the natural waste is increased. While sufficient to satisfy the appetite should be given, anything like over-feeding should be carefully guarded against, as food is wasted, and an over-fed beast takes several days to get into proper condition. The successful feeder will attentively notice at every feeding hour, how each bullock has disposed of the preceding meal, and increase or decrease the feed if necessary. There is a difference of opinion regarding how often cattle should be fed daily, but many of the best feeders will (we believe) agree with us when we say that the best results are obtained by feeding five times. The first at six in the morning, the last at eight o'clock, and the other three at equal intervals during the day. They should be turned out daily, before the noon feeding hour, to good fresh water (except in severe weather), and allowed half an hour's exercise, as it prevents them getting stiff or crippled, and will keep them in good trim for a run by train and shipping.

3. *Cleanliness* is also very important, and for much the same reasons as regularity is, as it promotes rest and quietness, and that just means a larger production of beef according to the amount of food consumed. With the hinder parts clotted with manure, and the coat full of dirt, which induces lice and mange, how can a bullock lie down at ease when not feeding? It is such that will be often on their feet, licking and rubbing, trying to free themselves of that dirt which the careless allows to gather.

Cattle, when in proper stables, should have the long hair on back and neck shortened,

so as to allow comb and brush to reach the skin; also the hair should be closely clipped from the tail to prevent manure from adhering to it. Then with an occasional thorough washing with soap and water, during mild weather, or, if lice are suspected, with tobacco juice, or some of the tick destroyers in the market, and a good grooming at least three times a week; the bullocks will quietly rest, and the increased profit shall be many times the cost of extra attention. Grooming should be done at feeding time, as it is a bad practice to disturb cattle when at rest. Feed boxes should be kept scrupulously clean, for if meal and other remains of food are allowed to gather and ferment, it taints the food, which is then refused.

4. *Warmth.* Stables in which cattle nearly immediately feel the changes of temperature outside are not profitable for fattening. If cattle in their stalls feel the effects of every chilling wind that blows, a large portion of the food consumed, which should be stored up as fat, surely goes to restore to their bodies the heat extracted by the cold surrounding air. Apart from the evidence of scientific men, we meet with a proof of this in reading of the craving the inhabitants of the far North have for oil, fat, blubber, etc., during their severe winter, and which is required to keep up the heat of the body. It requires but little calculation to see that it is much cheaper to warm stables than to maintain heat with expensive food. On the other hand, it is possible to have them too warm and badly ventilated.

5. *Ventilation.* Animals require plenty of pure fresh air to keep them in robust health. Having warm stables, the impure air should be allowed to escape, and fresh air to enter in such a way as to prevent a current of air from blowing directly on the cattle.

6. *Gentle treatment* is also very necessary, as cattle subjected to kicks and blows are always more or less excited, which greatly hinders the fattening process. A careful, kind feeder can in a short time gain the confidence of his bullocks, as they soon learn to expect from his hands food and kind treatment, and lapse into that quite restful condition that is so conducive to the laying on of flesh. By this system of feeding, the well-bred bullocks, formerly spoken of, stalled at the age of twenty months, will give the following results:—

Bullock at twenty months, cost	\$31 40
180 bush roots (mangolds) @ 8c.	14 40
1,000 lbs. pea meal @ 1½c.	11 66
800 lbs. ground oats @ 1c.	8 00
360 lbs. bran @ ½c.	1 44
1,000 lbs. hay	4 00

Cost of bullock at twenty-six months..... \$70 90

and will weigh 1,400 pounds, which at six cents will realize \$84. This gives a profit of \$13.10, which if all credited to the fattening period will be over 83 per cent. per annum on the \$31.40 invested in bullock for six months; but if the \$6.10 profit during the growing period be subtracted we have \$7 left, which is nearly 48 per cent. per annum on investment. But there may be farmers, owning small farms, or from other causes, do not find it convenient, or profitable, to raise cattle to fatten, yet having roots, hay, coarse grains to dispose of, wish to know if the buying of cattle to consume the feed on the farm would be profitable. To these we unhesitatingly say that, apart from the indirect profit accruing from the greater part of the feed remaining on the farm as manure, a very handsome cash profit can be had. But in buying, scrubs must be avoided even at what may seem a low price. Several years ago we were tempted to buy a pair of two and one-half year old scrub steers offered at \$28, which even at that time appeared to be a low price, as their combined weight was 1,440 pounds. After feeding liberally three months, during which they only gained 150 pounds, (less than a pound each per day,) they were sold at \$50, leaving us with a direct cash loss of \$3. Fairly-bred bullocks, in medium condition, can usually be bought at three and one-half cents per pound, live weight, when two and

one-half years old, weighing 1,100 pounds, then a bullock of 1,100 pounds at three and one-half cents per pound..... \$38 50

Fed during six months, 160 bush. roots (mangolds) @ 8c.... 12 80

" " 1,200 lbs. peameal @ 13c 14 00

" " 800 lbs. ground oats @ 1c 8 00

" " 400 lbs. bran @ 3c 1 60

" " 1,100 lbs. hay..... 4 40

Cost of bullock when fat..... \$79 30

and weighs 1,500 pounds, which, at six cents, is \$90, giving \$10.70 profit, or nearly twenty-eight per cent. for six months on capital invested. Results equally good and sometimes better have been obtained over and over again. In saying this we do not speak at random, as we have for many years fattened an average of twelve cattle, keeping an accurate account of the feeding expense of each one, and weighing monthly. We will give one season's total, that of the winter of 1881-82, being an average one in prices realized, \$400 invested in cattle of different ages and sexes, but all of good quality, fed during an average of four months at a cost of \$303.20, resulted in a cash profit of over \$100, or 25 per cent. on capital invested in four months. While it is an easy matter to calculate the profit in manufacturing beef, it is impossible for us to arrive at the indirect profit contained in the manure. No farmer can take his pencil and figure up how many dollars and cents it is going to put into his pocket, yet what a difference is to be seen on the farm where the manure applied is produced by a system of high feeding, compared with that on which cattle are kept on next to starvation rations. The former is yearly increasing in productiveness, while the latter is being gradually exhausted. Many rented farms afford ample proof of this ruinous system, and very often the landlord is to blame, because of his not providing suitable accommodation for keeping stock properly, and also because of the short leases of five years, which are so common. Landlords receiving, say \$400 in hard cash as rent, in reality are (in many instances) getting but \$300, as their farms are depreciating in value \$100 yearly. Our opinion regarding the value of manure based upon experience, can be briefly given by quoting a statement given by us at Farmer's Club meeting last year. "From reading agricultural papers I learned what success others had in improving the condition of their land by fattening cattle and better feeding of stock generally, so I determined to give it a trial. The result is that my farm is now worth (I believe) a fourth more than eight years ago: that is to say, the same amount of labour will produce a fourth more crop, and nearly all is due to the improved quality of manure." The manure pile is said to be the farmer's bank. In an ordinary bank if we deposit many thousand cents, the bulk is large but of little value, compared with the same quantity of golden dollars. In the same way, we may heap up a large bank of coarse manure made from straw, which will be but of little value compared with that made by cattle highly fed, though of much smaller dimensions. Of the latter a man with his team can move to the field in a day as much fertilizing matter as he could in four days of the former. This is an important item in reckoning the cost of crop. The crops grown by the farmer who feeds his stock well, may cost more per acre when the manure is charged, but at the same time the profit will be double, for if in the ordinary way a grain crop costs \$10 per acre, and the value is \$15, the profit is \$5. But if \$10 worth of first-quality manure is applied, with half charged to the first crop (as the benefit lasts for years) and the value of crop is \$25, then the clear profit is \$10 per acre, or double of that got in the ordinary way. We might as well expect our horses to do hard work and keep in good condition through fed on straw alone, as to think that our farms will continue to give profitable returns without any attempt being made to maintain their fertility except applying manure made from straw. If we feed our farms, they will feed, and also clothe us well in return. Farming is becoming yearly more and more a study and a science, and he who is to succeed in this vocation, must get out of the old ruts of the past, look carefully after the capital in his bank—the manure pile—and see that it is of the golden kind, such as is produced by good grade stock, fed well and fattened early, which we have endeavoured to show to be a profitable part of our business, and which is the basis of successful farming.

ESSAY ON THE BEST AND SPEEDIEST METHODS OF DESTROYING THE
CANADA THISTLE.

BY DAVID NICOL, CATARAUGUS.

To which was Awarded the First Prize by the Agriculture and Arts Association.

It is now very generally conceded that of all pests with which the Canadian farmer has to contend, the Canada thistle is the most troublesome.

It is the nation's greatest affliction. The annual loss caused by its deleterious effects on the grain crops of the country is incalculable. It has complete possession of thousands of acres; and on account of it hundreds of thousands of acres have become unprofitable under the present system of management. In some districts it has caused many farmers to become so discouraged that they have sold out their lands at a sacrifice, and turned away from farming in disgust, while others have gone to where the accursed intruder has not yet obtained the mastery.

It is looked upon with some favour by Bee-breeders on account of the superior quality of honey it yields; sheep, cattle and horses will eat it while it is young and tender, when other feed is scarce. Mules and donkeys are fond of it; but compared with its evil effects, its redeeming qualities are utterly insignificant. So it can only be regarded as an enemy, the eradication of which is of the utmost importance to everyone interested in agriculture.

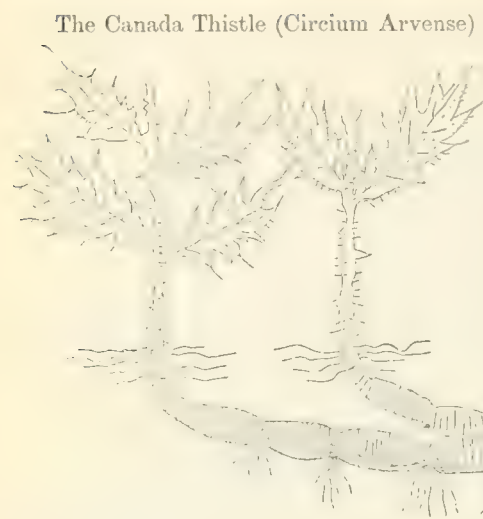
True, we have an act of parliament which makes it unlawful for any person to allow this thistle to ripen its seed on or about his premises, but heretofore it has been almost entirely inoperative. There seems to be but little propriety in enacting such laws without making efficient provision for their enforcement. I know not of any law less regarded than that concerning thistles. It may be that in some instances path-masters perform their duty in cutting down the thistles before they go to seed on the highway; that, however, can avail but little, while millions of them are uninterruptedly ripening their seeds in the adjacent grain fields.

It is quite possible for any person to subdue the thistles on his own property, but while they are freely allowed to ripen on the land of his slovenly neighbours on either side of him, he need never expect to be entirely free from the nuisance, because the seeds being furnished with downy pappus, are wafted for many miles in whatever direction the wind blows. Therefore all efforts, however efficacious, at their destruction by individuals, will only be abortive until it is made compulsory on every land owner.

The Agriculture and Arts Association have certainly done much for the encouragement and promotion of agriculture throughout Ontario, yet, it has never done any thing that would be of nearly so much general benefit to the country and people, as would be the suppression of this monstrous enemy of agriculture.

The offering of prizes for essays on the best and speediest methods of destroying this noxious weed, clearly manifests that the Association is more than ever alive to a sense of the duties devolving upon it, for on account of the position which it now occupies, it is only through it, with the united efforts of the county associations, that we need look for the inauguration of a movement that will be effectual in accomplishing this object.

In order to be the better able to manage the Canada thistle a knowledge of the nature of the plant and of its habits is essential. Doubtless it will be said by many that they already know more of its habits than is desirable, but judging from the discussions in some of the agricultural papers, it is quite evident that a correct knowledge of it is not general.



The Canada Thistle (*Cirsium Arvense*) is a perennial, with subterranean root-stocks or rhizoma, which are not the roots proper, as many suppose; every joint or node of this rhizoma is capable of sending out roots and stems and becoming an independent plant of itself, and, from this peculiar habit it is sometimes called the creeping thistle, but the sneaking thistle would be no nickname for it, for besides its open mode of propagation by seeds, it stealthily sends its underground root-stocks through under the fences, to shoot up in unsuspected corners.

It is imperfectly dioecious, *i. e.*, sometimes both sterile and fertile flowers are found on the same plants, but more commonly, the plants are either the one or the other, although sometimes they are barren. Often large patches of either sex are found entirely alone; hence

the continual controversy concerning their reproduction by seed. Some writers, who, having only examined sterile heads where no ovules are, assert that the Canada thistle produces no seed, therefore is propagated only by the underground root-stocks. But from a correct knowledge of the plant, it is easily ascertained that every fertilized flower of the fertile sex produces seeds that germinate the first favourable opportunity. The heads containing perfect seeds are very readily detected by the gold finch, or yellow bird, who eagerly feed on them at harvest time.

KEEPING THEM DOWN BY CUTTING OFTEN.

It is often stated that cutting the thistles even with the surface of the ground just when they are in full bloom, completely destroys them: every individual plant thus treated is killed down to where it started out from the rhizoma but no farther, for while the plants are making rapid growth above ground, they are also pushing out subterranean root-stems, which lie dormant during fall and winter, but which, unless otherwise injured, will certainly send up plant stems the following spring to be again cut down when in full bloom, and if that were the only means employed for their destruction they might exist on the same ground for centuries if the operation were repeated every year.

A far better method is to keep them cut even with the surface from the time they first make their appearance above ground: indeed this is the most effectual way of eradicating them, for if they are not allowed to form leaves, which to them act the part of lungs, they will make but very little growth under ground: one year's treatment of this kind very often entirely destroys them, but two years' such treatment energetically followed up invariably puts an end to them.

In order to accomplish this without extra expense, it is only necessary to prepare the infested ground for hoed crops, and plant in such a way that the thistles can be kept under by frequent tillage, and if the crop has to be hoed a time or two oftener than it would be without the thistles, it will be benefited thereby: whatever extra labour may be expended in keeping the thistles closely cut, will, I think, be well requited by an increase of produce.

SUMMER FALLOWING.

They can, of course, be destroyed by summer fallowing and stirring the soil with a sharp-sharped gang plough as often as once a week throughout the season, but this involves the loss of one year's use of the ground besides the expense of a great deal of labour, which, at present being unusually high, is a very important consideration. But one year's summer fallowing does not always prove sufficient for the total destruction of the thistles: in order to make sure work of them, the ground must be devoted to hoed crops of some

kind the following season, and if they are not thoroughly killed some sickly points of the root-stocks may survive to show their vitality as soon as circumstances permit.

A much more economical way is to prepare ground and plant for a crop of corn; if it is thoroughly cultivated until it is large enough to completely shade the ground the thistle will make such feeble growth that by plowing again as soon as the corn can be cleared off the ground, they will be quite as nearly subdued as they would have been by the bare summer fallow, and that without waste of time or labour. It is quite probable, however, that by this treatment for one year they are not entirely destroyed. So it is necessary to repeat it; only, for the second season, I would sow with root crops or plant potatoes, according to the supply of manure and the condition of the soil.

But be it observed, that with potatoes as a hoed crop the thistles sometimes get a favourable opportunity; especially is this the case with early potatoes in a dry summer when the tops soon decay. They seldom get any more hoeing after the tops are covering the ground, and with robust late growing kinds the thistles do not get much of a chance; but when the tops die early the thistles come up prosperously, and although they may not have got up early enough to ripen their seed, they have made vigorous growth under ground, for then the condition of the soil is just such as suits them, and if they are not disturbed until the following spring they will show themselves in very healthy condition. So when potatoes are planted on thistly ground, they should be dug as soon as the tops decay, for there is no increase in growth of the potatoes after that; then the ground must be treated for thistles as it should be by gang-plough in summer fallow.

THE THISTLE ON STIFF CLAY LAND.

This kind of thistle seems to thrive better on stiff clay land than on any other, but perhaps this apparent preference arises from the fact that there is more difficulty in subduing them on this kind of soil than on that of a loose nature. In some seasons clay land does not arrive at the proper consistency of dryness to be worked to advantage for a grain crop, or even for the necessary preparation for hoed crops; but I have never seen a season in which it could not be prepared in time for a crop of soiling fodder, provided it was sufficiently drained.

Now although this thistle has a peculiarly rugged constitution, it is easily smothered; deny it head room and it quickly dwindles into nothingness. If the ground is plowed deeply about the beginning of June, and immediately thereafter sowed thickly with corn broadcast, and covered, and rolled forthwith to prevent the escape of moisture, the corn will start in advance of the thistles, and before they reach the surface it will be occupying the ground so much that the thistles will be almost unable to show themselves, at all events they will not be able to show flower, but will be so weak as to be perfectly harmless until afforded more favourable conditions.

A very effectual method of destroying them on this kind of land, is to sow in the fall for a crop of rye, to be used the following spring for early soiling, and as the rye is taken off, manure the ground, plow and sow thickly with corn for a late crop of green fodder or for ensilage; and by the time this second crop is ready for cutting, there will scarcely be a live thistle to be seen in the field although fragments may still be lurking under ground, which must be watched the following spring.

TO PREVENT THEM FROM GOING TO SEED IN SPRING SOWED GRAIN.

By far the largest amount of damage done by thistles is in the spring sowed grain crops; it is chiefly along with these crops that they are allowed to ripen their seed, so it is in connection with them here that the hardest battles are to be fought, and although to some it may seem incredulous, it is even quite possible to have them subdued and rendered almost harmless, among any kind of grain crops where the land is in tolerably good condition. This can be best done by taking care that the grain sowed shall always have the start of the thistles, instead of the common practice of allowing the thistles to start in advance of the grain.

In most cases where land is plowed in the fall, the grain is sowed in the spring, just

about the time that the thistles are within two or three inches of the surface of the ground, and before the seed grain has germinated the thistles have formed leaves above the ground; thus having a good start in advance they keep it throughout until harvest, when a fully matured crop of thistles has to be gathered along with the grain, and very frequently the crop of thistles far exceeds that of the grain. There could be no better mode adopted for the propagation and encouragement of the growth of the Canada thistle than this; and any one travelling through the country either at seed time or harvest, cannot fail to perceive that this has been for many years, and is now, the prevailing custom; consequently there is scarcely a farm in the country on which this base intruder does not occupy a prominent position, and in many instances is acknowledged master of the situation.

Now, whether the ground has been plowed in the fall or not, the only way in which the thistles can be kept under subjection with spring sowed grain of any kind, is by plowing deeply in spring and sowing immediately after the ground is plowed, so that the grain will have a start in advance of the thistles. Having this advantage, the grain so occupies the ground that the thistles come up weakly, and are not able to show flower at all; and if by reason of the ground being in good condition the grain crop is thick and heavy, the thistles will scarcely show leaves; they will indeed be so thoroughly subdued as to be scarcely noticeable. I speak from experience, having proved this method effectually dozens of times. But he it observed that every hour the ground is left unsowed after it is plowed, is so much in favour of the thistles; the secret of success with this method is, as with most farming operations, prompt action, do not wait until tomorrow to do what can be done to day. The thistle rhizoma runs deeply under the ground, and starts young shooting plant-stems very early in spring, so, unless intercepted in their course they have a natural advantage over most of plants, but if they are cut off eight or nine inches under the surface of the ground by a sharp shared plough, just before the grain is sowed, they are put at considerable disadvantage, and if this system of smothering is persistently followed up for a few years, it will be found that the intelligent tiller of the ground is fully able to put the enemy completely under subjection.

It will doubtless be urged by some, that this mode of preparation requires so much time in spring, that the ordinary farmer with his usual amount of help would not be able to get the desired area sowed with grain early enough in the season to give hope for satisfactory returns. But is it not far better in every way to have small fields of grain uninjured by thistles, than to have large fields so overrun with them that the crops are almost worthless, besides the certainty that they will so increase that in course of time the thistles will have complete possession, unless their progress be impeded?

KEEPING THEM DOWN WITH CLOVER.

When they are pretty well subdued by the foregoing treatment with grain crops, a thick seeding of clover sowed along with the grain answers an excellent purpose in keeping thistles under when once they are down; for their weakness gives the clover the advantage, and whatever of them may have survived are not able to show flower before the clover should be cut the following summer, and by the time the second thick crop of clover is ready for cutting the thistles have got their quietus, and will not show themselves again until afforded a more favourable opportunity.

CONQUERED BY LUCERNE.

Three years ago I prepared an acre of thistly ground for lucerne, and sowed thickly about the middle of May. By the time the first crop was ready for cutting, which was the latter part of July, the thistles were as high as the lucerne. The following season the thistles, of course, started again as early in spring as the lucerne, and were quite as high, and showing flower before all the first crop was cut, but the second crop of lucerne came on so rapidly that the thistles had small chance, and by the time the third crop was ready for cutting there was not a thistle to be seen in the field. Sowing lucerne thickly and top dressing it liberally with barn yard manure every fall for a few years completely destroys the Canada thistle.

PASTURING KILLS THEM.

Turning thistly land into permanent pasture is an effectual method of rendering the thistles perfectly harmless, and in course of time killing them altogether; and, all things considered, I think that for lazy farmers or where hired help is scarce, this method will be found the most convenient. True, they do come up with considerable vigour the first year after mowing, and stock do not eat them unless grass is very scarce, but with a mowing machine they can be cut down at the small cost of twenty-five cents per acre, and the pasture is so much benefited otherwise by the mowing of other weeds and tufts of long grass, that the labour is more than doubly repaid, even if the mowing is frequently repeated during the season. If the intended pasture is seeded thickly with a good mixture of suitable grasses, the sward will be so close the second year of pasturing that the thistles will come up but feebly, and one mowing will probably be sufficient to keep them under; at all events, as the sward thickens the thistles disappear.

KILLING THEM WITH SALT.

I have often been told, and have frequently seen it stated in agricultural papers, that a spoonful of common salt put on each thistle just as they are making their appearance above ground is certain death to them, and I am sure that whoever has tried the experiment has no doubt as to its efficacy. To idle persons this is a useful kind of amusement, and it is quite practicable in a small garden, but frequent cutting answers a better purpose, with much less trouble, at less than half the expense. But when we come to think that in a ten acre field, if they come up one foot apart there would be about 43,500 plants to be thus dealt with, requiring an application of about 1,500 bushels of salt, the practicability is not so apparent; and besides, in order to insure success the application has to be repeated frequently for several years, for killing them as they appear does not prevent others coming up from the same rootstocks. So, the quantity of salt required to kill all the thistles would render the ground unproductive of any other crop for a time. Salt applied at the rate of a few bushels per acre is beneficial to most of crops, but surely no one would suppose that it could be scattered broadcast in sufficient quantities to destroy thistles without destroying all other vegetation.

Sulphuric acid is recommended for the same purpose. It is quite as effectual, but less economical than salt, besides being injurious to the soil when applied in quantities.

It is hardly probable that destroying this kind of thistle by any chemical process will ever be found to be practicable.

NO ONE METHOD THE BEST UNDER ALL CIRCUMSTANCES.

Of all the many ways of destroying this troublesome pest, it could hardly be supposed that any one method would be found to be the best under all circumstances. The nature and condition of the soil, the requirements of the farmers in different districts, the state of the weather, conveniences and the cost of labour, have all to be taken into consideration, and it is quite probable that whoever undertakes to put the thistles under subjection and keep them there, will find it necessary to adopt several of the various means which lie within his power, and as circumstances may permit. No slipshod methods will avail anything in this matter; only perseverance and determination will bring about the desired end.

CAN THE CANADA THISTLE EVER BE ENTIRELY ERADICATED?

We very frequently observe that where a clearing is made in the bush, and the brush burnt off in piles, the Canada thistle is the first plant to make its appearance in the very spots where the piles were burnt, although the ground is charred to the depth of several inches. This leads us to the supposition that it must have existed in some form under the surface, because, although seeds may have been deposited in these places, they must have been destroyed by the burning of the brush, fresh seeds are not on the move until midsummer, and on these spots the thistles start almost immediately after the burning in spring.

Again : where deep ditches are dug through old pasture fields where thistles have not been known to grow before, they come up in profusion, not only from the soil thrown out, but often from near the bottom of the sloping sides of the ditch, and that before there is any probability of there having been fresh seed deposited there. It is a well known fact that thistle seed will germinate after lying dormant in the ground for several years, yet we can scarcely suppose that these plants sprang from seeds that had lain for ages several feet under the ground.

This brings to our notice the theory now promulgated by some scientists, that the root fibres of some such plants have existed in a live state ever since the earth was first clothed with vegetation, and that this root fibre produces the rhizomes from which spring the completely organized plants. The want of satisfactory evidence, however, leads us to doubt the correctness of this theory.

We learn from the best authorities that this thistle is a native of Europe, and is not indigenous to Canada, but how or at what time it was introduced is not known. It is quite probable that some seed came mixed with the first importations of seed grain.

And now, from the fact that it is so thoroughly established, and that it so often mysteriously appears in unsuspected places, I am led to the conclusion that it cannot be entirely got rid of for ages to come, even if the most stringent measures were adopted for the purpose of destroying it.

THE AMENDED ACT.

The Government last session so amended the Thistle Act, that every municipality on petition of fifty ratepayers can appoint an inspector, whose duty it shall be to see that no noxious weeds are allowed to ripen their seeds within his jurisdiction. So now if the Act is not enforced, the people will only have themselves to blame.

In cities, policemen are required to see that every lotholder or householder keeps his premises free from filth, or whatever may be offensive or injurious to his neighbour, and if the officer in that position in any given district is found to be derelict in duty, he is summarily discharged and replaced by one who will be more faithful in doing that for which he is paid by the people.

The people of no town or city can afford to be without this protection. So, in this thistle scourged country, in order to protect those who have taken the trouble to subdue them on their premises, they must be protected from the evils arising from the negligence of their neighbours. It can be done at comparatively little expense to each individual in a community.

ESSAY ON THE BEST AND SPEEDIEST METHOD OF DESTROYING THE CANADA THISTLE.

BY WALTER RIDDELL, COBOURG.

To which was awarded the Second Prize by the Agriculture and Arts Association.

The Canada thistle is a formidable weed in many respects ; it spreads extensively by the seed. A single thistle plant is said to have from five to six thousand seeds. These seeds have wings which carry them far and wide for many miles over the country ; in passing down Lake Ontario in the fall of the year, we have seen them miles away from land. The roots being both perennial and creeping, the plants quickly extend in patches beneath the surface. The depth the roots reach is great ; an instance is given in the "Farmer's Magazine" of the roots of a thistle being found in a quarry, nineteen feet long—nor is it less remarkable for its lateral roots. A Mr. Curtis (in England), planted about two inches of thistle root in his garden in April, and by the following November it had thrown out underground *stolones* (creeping roots) on every side. Some of these were eight feet long, and some of them had thrown up leaves five feet from the original root ; the whole together, when dug up and washed, weighed four pounds. In the spring

following it is about its appearance from a root where the small piece was originally planted, the new one between. Many are sixty years old, and some have produced from fragments of the roots that had eluded the gardener's search, though he was particularly careful in extracting them. From these facts it may readily be conceived how difficult it is to eradicate this weed from the soil when once they are fairly established in it. Although the thistle is a "hard customer" to deal with, and an impoverishing "tenant," it is yet a harder master when once permitted to usurp the soil; its eradication is attended with much labour and trouble, and its toleration with ruin to the richest soil—they devour the strength of the land and pay nothing in return.

Besides their unsightliness there is great loss from thistles in different ways; they occupy the ground which should grow valuable plants, and take nutriment—food and water—from the soil, which is essential to the bringing of crops to perfection. It is said "the earth is mother to the weeds, while only stepmother to the crops,"—the thistle comes sooner and grows quicker than the crops, overshadows, checks, and stunts, if it does not smother them out altogether.

We may refer to the oft quoted experiments of the late Sir John Sinclair, where it is shown that the difference between land that was *weeded* and that that was left *unweeded* varied from four and a-half to fifteen bushels per acre in favour of the weeded portions.

As there is no "royal road to learning," we are afraid there is no "short and easy" method of cleaning a farm from thistles once they have got a good foothold; we think they can only be got out in time, with labour and toil, and kept out with continual watchfulness. They are old residents on earth—long companions of man, for when man was expelled from the Garden of Eden he was told that "thorns and *thistles* shall it (the ground) bring forth to thee."

There are three modes of killing thistles and other weeds—First, frequent cutting; second, digging or rooting out by hand, plough or other similar instruments; third, smothering or choking them out with other luxuriant crops. Such a thing as clearing a farm of thistles has been done, and may be done again; unless the leaves, which are the lungs of the plant, can develop themselves above the surface the plants cannot breathe, and in time will die; keep the portion above ground from growing, and the whole plant will certainly be destroyed. The best way for common practice to do this is to plough them under, and continue ploughing often enough to keep them smothered; this, with frequent harrowing, careful cultivation, well conducted rotation—seeding down with clover (and other grasses), mowing, &c., have performed wonders on the farm at large, but the work *must* be *thoroughly* done,—the ploughing carefully done—no cut and cover work, no *baulks*, not a straggler left above nor one uncut underneath, as the success of the operation depends of course in keeping down every thistle plant below the surface. Success in any department, or as a whole, can only be obtained by undeviating perseverance and attention to the minutest details.

What number of ploughings is required to kill thistles depends some on the soil and also on the season, but certainly six good ploughings (with the necessary harrowings), given during the months of June, July, and August, will accomplish the destruction of the thistle, and sometimes fewer ploughings will do. This, in our view of the matter, is the most effectual and speedy method to destroy the Canada thistle, viz., to first give the land a good thorough summer fallowing—if it can be sown with fall wheat so much the better—and then seed down heavily with clover and other grasses; if the clover takes well and is cut twice the first season, the thistle will be destroyed for the time, and if the land is weeded and cropped afterwards as it ought to be, the thistles will not give any more trouble.

One great cause of thistles being so widely spread over the Province is the constant, continual cropping of the land with grain crops, without fallowing or seeding down; we have heard farmers boast of taking from ten to twenty grain crops in succession—enough to fill any land with thistles.

Then all thistles should be cut twice every summer on all pastures, around fences, on the lanes and public highways of the whole country, on all our railroads, on the waste places about the edge of our woods, wherever they are found growing. If this practice was faithfully followed up for a few years all over the country, though thistles might

never be totally eradicated, they would be kept within bounds and do little or no damage to our crops.

There is no doubt that thistles may be destroyed by hoeing in our root and hoe crops; with our improved implements for working hoe crops, when they are sown in drills, or put in in hills so as they can be cultivated if in hills both ways; then cultivate, say once a week, during the season, cutting out with the hoe any thistles the cultivator cannot reach or may have missed, allowing no thistle to show above ground. If the work is carefully attended to the whole season the thistles will be exterminated, but the great trouble is this is seldom done, as however well the hoe crops may be attended to in the first part of the season, the busy time of haying and harvesting comes on, when the cultivating and hoeing the hoe crops is neglected just when it would be of most benefit for killing thistles. We have often noticed how very few thistles grew after a good turnip crop, if it had been well hoed and cultivated after harvest.

The great point in all cases, whether in hoeing or in summer fallowing, is to do the whole work thoroughly. Where from any case (such as a wet season, etc.), a second hoeing or summer fallowing may become necessary to kill out thistles—where fall wheat can be safely grown this is little or no loss, and it is most essential that no thistles be allowed to go to seed any where around. How often have we seen, when ploughing up land that had been summer-fallowed, the air almost filled with floating thistle down, thus seeding whole fields, so that no matter how well the work had been done, it was almost labour in vain. The young thistles are so small at first that they are not observed, but in a few years they fill the land again, no matter how well it had been cleaned.

We will now give one or two examples of what we have done, or seen done, with thistles. Many years ago we went on a farm that was very thistley, one field especially so. As the land was not suitable for fall wheat we did not wish to summer fallow it. In the fall rather late we gave the field a good thorough ploughing, as deep as we could, and in the following spring, after all our grain crops were sown, we ploughed it as deep as it had been ploughed before, and gave it a good harrowing, and then planted it with potatoes, corn and turnips. The potatoes and corn grew well, and we hoed and cultivated them as well as we could, allowing no thistles to show themselves above ground as long as we could get through the corn and potatoes.

The turnips, though sown two or three times over, proved a failure, and as this was before reaping machines were common, before we got the harvest off our hands the turnip ground was covered with thistles nearly knee-high. After harvest we ploughed them down carefully, putting a heavy chain on the plough that dragged down all the thistles, so that they were completely covered over, and the ground well harrowed. The whole field was ploughed and ridged up before the frost set in.

The following spring the field was sown with spring wheat, and heavily seeded with clover and timothy. The spring was early; the crop grew well; any few thistles that did grow were small and puny, and did not reach higher than the bands of the sheaves. The following year the clover was cut twice (once for seed). This seemed fairly to conquer the thistles, and as long as we afterwards occupied it (more than twenty years) one man in a day could spud out all the thistles that grew on the ten acres. We may add, that we never took off that field more than two grain crops in succession, without either taking a crop of peas, a hoe-crop or seeding down.

Another case: A piece of new land where fire-wood had been taken off and Canada thistles had been allowed to grow—so rank and strong were the thistles that one could only pass through them by following the tracks made by the cattle. After this land had lain common for several years, until the small stumps began to rot out, the land was fenced in, and being suitable for fall wheat we undertook to summer fallow it. As the spring happened to be an early one, we ploughed it in the last days of March and the first week in April. It lay just as it had been ploughed until after the spring crops were all got in and other work done, till about the second week in June. By this time the thistles had grown a fine, healthy, strong, heavy crop, and as there were both some stones and stumps on the land, we knew it would be impossible to plough it so as to cover up all the thistles, so we mowed over the whole piece as close to the ground as possible, and after laying a day or two burnt up the rankest of the thistles. The land was then

ploughed carefully over, and well dragged and harrowed both ways several times. It was then cross ploughed about the latter end of July and the necessary harrowings given. It was ridged up and sown with fall wheat in the first week of September. As the land was new, fresh and good, the following crop of wheat was very heavy, with no thistles, except some large ones around stump roots, where they had not been reached by the plough. The summer this following was done was a dry one, very favourable for killing thistles. They were never troublesome on that field as long as we farmed it. After taking off a second grain crop it was seeded down and pastured for several years, and any few thistles that came up were cut off.

Another case, and we have done. This was a field that had been long and constantly cropped. It was seeded down with seeds but did not take well enough to stand for a crop of hay. About the middle of June the whole was carefully ploughed, with a heavy chain on the plough to drag under every green thing, then well harrowed and poughed again about the last of July, when the thistles had got up an inch or two. After harrowing it lay till the beginning of September when it was again ploughed and sown with fall wheat (drilled in), then sown with clover in the following spring. There were no thistles in the wheat crop, nor in the following clover and hay crops.

There is a method of killing thistles that we have heard recommended, but as have not tried it, or seen it tried, we cannot say whether it proves effectual in practice or not. It is, to take a thistley field and plough it well in the fall, then in the following spring to cultivate and harrow the land well, making the surface as fine and smooth all over as possible, and sow the whole with a heavy seeding of clover and grass seeds, without any grain crop, and mow the field about the last of June when the thistles are in blossom, and again about the last of September, making hay of the thistles and what clover and grass there is amongst them, then mow twice the following season—once for hay and once for clover seed.

In conclusion, we are of opinion that most farmers *know* how to kill Canada thistles. The great trouble is to put their knowledge in practice, as most farmers have, or takes more work in hand than with the help they have they can find time to do well. The great point in all cases is to do the work thoroughly; if killing thistles is not done thoroughly, it is not done at all, there must be no *nest eggs left*, no little out of the way corners, where *just* two or three thistles are allowed to flourish—it is most essential that no thistle be allowed to ripen its seed any where in the country.

A good farmer may spend a good deal of his time and more to eradicate the thistles from his farm, by keeping up a constant warfare till he has exterminated the last one, but some farmers know to their sorrow that it is of little use to attempt to keep their farms clean, while, perhaps, their very next neighbour does nothing; suffers his thistle beds on the adjoining fields to ripen their winged seeds, so that the seeds can be blown off by every breeze, floating in the air to lodge wherever the ground is ploughed or broken.

It is here that the protection of law is most required—the laws at present may be sufficient, if strictly enforced, but this has very seldom been done—the laws have been little better than a dead letter, if they were faithfully enforced there would soon be a marked improvement all over the country, but if this is left to local authorities it will not be done. The fact is that a heartless public prosecutor is wanted; one who will have no howls of mercy whatever for any neighbourhood, who shall not be attached to it, but be ready to assail a patch of thistles wherever seen without loss of time or respect of persons; as the growing thistles can easily be *seen* cannot be done in secret, a public prosecutor, specially appointed for the purpose, would have little difficulty of compelling obedience to the law. As it is, if the destruction of thistles is left to local action, as no man likes to live in “hot water,” or to bear witness, however true, against his neighbour, particularly against a kind, obliging, industrious one, knowing that such would only cause him *ill-will*; if left as at present, the law will seldom be properly enforced. To have to prosecute or inform on a neighbour is always a distasteful remedy, and one applied for as a last necessity; for it hardly ever fails to produce heart burnings, and alienations between parties whose interest and happiness it is to live in harmony. There is no doubt that at first there would be cases of hardship—a great deal of grumbling and some hard feelings, at being legally compelled to do (or have done

at their cost) what was really for their own benefit to co-operate in cutting, destroying, and thus helping to clean the country of that great nuisance—the Canada thistle.

A certain writer states that in China “he had seen men imprisoned six months for allowing weeds upon their lands.” If such a law was in force in Ontario, we are afraid some of our farmers would find it hard work to keep outside the gaol.

ESSAY ON THE BEST AND MOST SPEEDY METHOD OF DESTROYING QUACK GRASS.

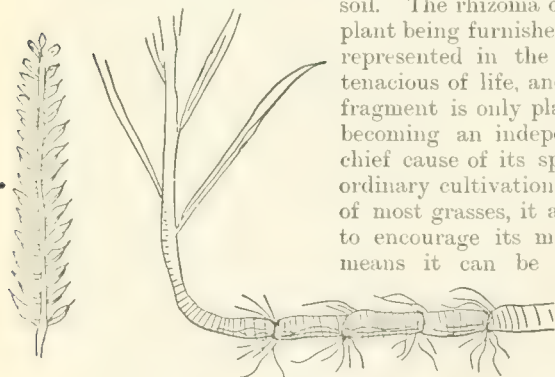
BY DAVID NICOL, CATARAQUI.

To which was awarded the First Prize by the Agriculture and Arts Association.

Quack Grass (*Triticum Repens*) is known throughout Europe as “Couch Grass,” in some localities it is commonly known as “Quick Grass,” which name, I presume, was given it on account of the rapidity with which it spreads. In some parts of Great Britain it is called “Witch Grass,” and I daresay that is because it often appears mysteriously in places where it is little expected; but how it ever got the name of “Quack” I do not understand, for I do not know of a more ‘reliable’ plant of any kind.

There are many more species of the same genus; there are also several forms of the same species, but none so generally or unfavorably known as this one. I am well acquainted with it, and from what I know of it I have no hesitation in saying that it will thrive on any soil, and in any climate where ordinary farm crops can be raised; and notwithstanding some redeeming qualities which it undoubtedly possesses, and that as a friend it is a very valuable and reliable plant, it is herewith to be treated only as one of the thrifty farmer’s most troublesome enemies. It comes so stealthily on his premises, that often before he is aware it takes possession of whole fields, and it is no uncommon thing to hear it asserted that the unwelcome interloper, having once got possession, can never entirely be got rid of; but such assertions are made only by those who have not adopted the effectual means of destroying it, or if they had adopted it, had failed to thoroughly carry it out; consequently very much labour is wholly lost because it was not sufficiently thorough. More than in almost any other farming operation, success in this one depends on thoroughness: there seems to be nothing better suited for the encouragement of the growth of quack grass than to have it about half killed, and whoever does just this, and leaves it to its own will, has soon to acknowledge that quack is master of the situation and must be accepted as a necessary evil.

No half way or slipshod method will ever eradicate this persistent inhabitant of the soil. The rhizoma or subterranean running stems of this plant being furnished with buds on every node or joint, (as represented in the accompanying figure), are extremely tenacious of life, and when torn to pieces by the plow each fragment is only placed in a more favourable condition for becoming an independent plant. This peculiarity is the chief cause of its spreading so rapidly, and so, while the ordinary cultivation of grain crops causes the destruction of most grasses, it appears in the case of this grass only to encourage its more vigorous growth. Yet if by any means it can be prevented from forming leaves above ground, its existence will be of short duration, and this is not only quite possible, but there are various ways in which it can be done.



It is scarcely probable that any one method would prove to be the best or most economical under all circumstances. Where it is in land on which there are many stones

stumps, or trees, which would in some measure prevent the necessary working of proper implements, it would be very difficult to completely eradicate it. But where land is free from stumps or trees, so that it can be thoroughly tilled with such implements as can now be obtained, a good farmer need suffer but little inconvenience from quack grass. I have learned from extensive experience that land can be cleared of it without incurring extra expense, or spending much extra labour, more than could be expended with profit on such crops as the land will produce to advantage with proper management, while under going treatment for the extinguishing of this foul grass.

I have often seen summer fallowed fields almost cleared of it by being worked to the surface, gathered in heaps and then carted off; but of all the methods I have ever seen tried this is the most laborious and unprofitable, and now, with labour at the present price it would cost more to clear land of a thirty crop of quack grass than any ordinary farm land would be worth when it is cleared. But the worst feature of this method is, that the land is robbed of much vegetable growth which really would have enriched and fertilized it, when subdued by cultivation given to a hoed crop. Besides, it is almost impossible to entirely clear land of it by this method alone, for in spite of all efforts there will be some small joints of rhizoma left, which only require the chance they will get, if the land is sowed with grain the following spring, to again show themselves in prosperous condition in the fall. Sowing grain on land which has not previously been completely cleared of quack, is the most certain means of perpetuating it.

It is urged by many that summer fallowing is the only means of destroying it. I know that early and deep plowing in the spring, followed by stirring the surface with a gang-plough as often as once a week throughout the season, plowing again late in the fall as deep as it was broken up in spring, and next year devoting the ground to a thoroughly tilled hoed crop, is a very effectual remedy, and would generally be satisfactory, were it not that it involves the loss of a year's use of the land, and also the expense of a great deal of labour on it, without any income; and in these times of expensive labour this is a very considerable objection to this method.

By a method much less expensive I once thoroughly cleared a field which was so entirely over run with quack, that the root-stocks formed a perfect mat about four inches thick. The field, on account of the quack, had been abandoned as good for nothing but pasture, and remained in that condition for five years.

About the first of June it was ploughed deeply, and immediately thereafter I sowed it with buckwheat at the rate of two bushels to the acre; when the crop was in full bloom, the latter part of July, it was plowed down and immediately sowed again with buckwheat as thickly as before. This second crop was plowed down the 20th of September, and while I had possession of that field I never observed in it a single joint of quack grass alive. This operation costs about eight dollars per acre, besides the loss of one year's use of the land, but by the decayed mat of root-stocks, and the two crops of buckwheat plowed down, the land was very much enriched and its value immensely increased. I never saw a piece of land in better condition than that was the following spring, nor did I ever see a better crop of potatoes than was raised on it the following season.

The successfulness of this method, as well as others, depends very much upon the manner in which the operations are carried out, but if judiciously performed so that the buckwheat will always have a good start of the quack I am certain that it is better in every way than either the gathering off plan or the bare summer fallowing. It is far more effectual, at less than half the cost. With this method it matters but little how thick the mat of root-stocks may be, only the thicker the mat of vegetable growth, the more the land will be enriched by the dead substance. If the land has previously been very much impoverished, so that the buckwheat would make but too feeble growth to smother the quack, a topdressing of manure after the first crop is sowed would be essential for the insuring of success. This is what I would call the smothering system.

I have seen patches of quack smothered by a thick layer of straw applied in June, or just about the time the grass is at its most rapid growing stage; but this plan, although very suitable for patches, could seldom be carried out on a large scale, for want of large quantities of straw. It involves more labour than the buckwheat plan and is not nearly

so satisfactory, yet sometimes where the land is poor, and manure is scarce, waste straw may be utilized in this way to advantage.

Another practical method, which sometimes succeeds remarkably well, is to manure and plow the ground in the fall, and the following spring cross plow and sow with peas. If the ground is in tolerably rich condition, and the peas sowed immediately after the ground is plowed, so that they will get a good start before the quack begins to appear above ground, the luxuriant growth of the peas totally covers the ground and pretty thoroughly smothers the quack ; at all events it is so very much" subdued that the land is in excellent condition for a hoed crop the following season, and if it is treated with good and thorough cultivation, there need not be any more trouble with quack on land thus dealt with.

But the simplest, speediest and most economical method that I have seen applied for the destroying of quack grass is by the cultivation of corn ; no matter how completely over-run with the noxious weed the land may be, it can be overcome by the thorough cultivation of corn, and the more thorough the cultivation the sooner is the desired end accomplished.

I had a field treated in the following manner with perfect success, and have frequently seen the same experiment successfully carried out in other fields :

The field, which was of good loamy soil, had before it came into my possession been given over to quack, which was the sole possessor of the soil, because the owner considered it impossible to raise anything else upon it with profit.

Preparation was commenced in the fall by manuring and plowing the ground, in the same manner as if no such thing as quack existed, except that the plough coulters were made somewhat sharper than is required for land free from quack. Then the following spring, about the time the quack was starting to grow, the land was cross-plowed and dragged, which put a considerable check on it for a time, and then just before corn planting time it was plowed and dragged again to make it ready for planting, and here comes in the most important point : this latter plowing and the planting of the corn was deferred until late, say the fourth of June, because it grows much faster then than when planted earlier, and so before the quack got much of a start the corn had made growth enough to allow the use of the horse hoe, and by cultivating as often as once a week it was kept completely under between the rows until the corn was ready for hoeing ; then after a thorough hoeing of the corn, which was planted in hills, the horse-hoe was run through crosswise, making a clean and thorough tillage, which was kept up by the frequent use of the horse-hoe until the corn was fully occupying the ground, by which time there was very little live quack to be seen in the field.

By this treatment the corn got a little more cultivation than it would have received if the land had been clean, but no more, I think, than was of advantage to the crop ; the extra labour bestowed was, I believe, well requited by increase of produce.

Ground treated in this way, however, although done over so thoroughly may not yet be free from every live particle of the subterranean rhizomes, and they sometimes retain their vitality with marvellously small allowance. So it should again be prepared in the same manner for another hoed crop of some kind the following season, which affords an opportunity of eradicating the last vestige of the enemy ; and as every farmer calculates, or should calculate, to raise annually a few acres of potatoes, besides other roots for cattle, it can be clearly seen that this method can be followed with advantage.

In most cases, land that is of a loose nature can be cleared of quack by a two years' thorough tillage of any kind of hoed crops, but I have seen quack possessed fields of strong clay on which it was very difficult to raise hoed crops profitably, because sometimes before such land becomes of the proper consistency of dryness for the judiciously working of it, the season is too far advanced to allow time for the necessary preparation ; but I have never seen a season in which even the most stubborn kind of clay land (if sufficiently drained) could not be prepared for a late crop of soiling fodder ; a mixture of oats and vetches if prepared will sometimes, if sowed thickly, give satisfactory results, but for this special purpose I know of nothing so well adapted as corn. The heaviest crop of this kind I ever saw raised was sown on ground plowed on the seventh of July ; the corn was sown broadcast, very thickly, just immediately after the ground was plowed ; it

was covered by the drag and rolled, to help to prevent the escape of what moisture was in the ground, and although there was much quack in the ground when the corn was sowed, there has none been seen alive since that time. The whole secret of success in treating quack with a crop of this kind on stiff clay soil, depends entirely on having the land prepared just as soon as it is advisable to do so, and that is not before it becomes of the proper consistency. It must not be worked before it is dry enough to crumble; it cannot be worked to advantage after it has become so dry that it cannot be pulverized without a great deal of extra labour, and then the corn will not start to grow until rain comes; by that time the quack may have got so much the advance as to check the growth of the corn.

In some seasons there are perhaps but a few days in which the proper conditions of land of this kind can be availed of; so, if the favourable opportunity is neglected, it is then better to make the best of the quack for a season, by encouraging it, so as to have a good crop of hay; for quack grass, if cut before it becomes ripe and tough makes hay that is very nutritious and is much relished by horses and cattle. The underground stems or root stock of this variety of couch grass contain a much larger proportion of nutritious matter than the stems and leaves. In the south of Europe they are highly esteemed for feeding horses. In Naples they are sold in the market in large quantities for that purpose, and in time of famine they have been used as human food by being made into a kind of bread.

Lands of all kinds that are completely exhausted by continued grain cropping cannot be so readily cleared of quack as land that is in better condition. When so poor that buckwheat will not grow strong enough to cover the ground, and the owner has no other possible means of enriching it, far better allow it to rest in pasture for a few years, after which time the smothering system can be practically applied.

There is one form of quack found in low land; it is called the *Stolonifera* variety of the *Agrostis Alba*. Its stems and leaves very much resemble the common quack, but the flowers differ in appearance as much as does oats from wheat; the underground stems or root-stocks are more of a wiry nature and harder to destroy.

It is an excellent constituent in water meadows, but when rotation of crops are desired it is an exceedingly troublesome weed. The eradication of it is much more difficult than that of the common quack; however, the same means must be adopted for its destruction, but with more persistent perseverance.

I have seen fields of this kind of quack pretty well subdued by the thick seeding of alsike clover. Where it is on low flat land that cannot be sufficiently drained for the profitable cultivation of hoed crops, thick seeding of alsike is probably the best thing for keeping it down. Alsike lives longer and thrives better in moist land, and grows much stronger than does red clover.

On high land red clover can be grown to answer the same purpose, although it cannot be entirely relied upon as a total exterminator of quack; a thick seeding of fourteen or fifteen pounds per acre makes a growth thick enough to nearly smother it the first season. But in case of the clover getting partially winter-killed the second season, and giving the embedded quack another chance of recuperating, it is better to plough down the clover sod and plant for a crop of corn, for corn delights in clover sod. One crop of corn thoroughly tilled after a heavy crop of clover, will generally leave the ground perfectly free from quack.

The seed of all kinds of couch grass grows freely, and wherever quack hay is being fed to animals there will certainly be some of the seed in the manure. I would not be understood as saying that the seed of quack grass will grow after it has passed through an animal, as does white clover and some other seeds, but almost everyone knows that wherever hay of any kind is being used in a barnyard there will be some unconsumed seeds left among the manure, and in spite of heating and rotting for years there will be some seeds left to germinate after the manure is applied to the soil. Therefore, manure made where quack hay is used should not be applied to land that is already clear of quack, except where the land is to be devoted to hoed crops, unless the hay has been cut before the seed is nearly ripe. As before mentioned, quack grass intended for hay should

be cut before it is ripe, because when nearly ripe it becomes tough, and were this rule strictly adhered to there would be no more propagation of it from seed.

It may be objected that by the methods here recommended, a long time would be required to clear a large farm wholly infested with the accursed thing. But whoever undertakes to do this effectually will find that it is unwise to undertake too much of it at a time; and also, that even the most thoroughly cleared fields (while quack is in the neighbourhood), cannot be kept entirely free from it, short of constant vigilance.

ESSAY ON THE SPEEDY METHOD OF DESTROYING QUACK GRASS.

BY WALTER RIDDELL COBBOURGH.

To which was awarded the Second Prize by the Agriculture and Arts Association.

What weeds constitute the greatest barrier to agricultural improvement, and the profitable employment of farm capital, must appear evident to every one having a practical acquaintance with the subject. Weeds are gross feeders and exhaust the soil—every plant that grows upon the ground tends to impair its fertility, and weeds generally more in proportion than cultivated crops: they are the most hardy—the greatest consumers of vegetable food, they are particularly prejudicial in a dry season, as they exhaust the soil of moisture in proportion to the superficies of the surface of their leaves and stems. It should always be remembered that every weed suffered to grow and mature, robs the crop of a certain amount of food, lowers the stamina of the soil, and operates severely against any improved system of agriculture.

The presence of weeds wherever found indicates one of two things, either that the farmer has injudiciously undertaken more than he can accomplish, and do the work well, or they indicate a state of indolence and inactivity. Some of our best yielding soils, in consequence of over cropping and negligent culture, have become so filled with weeds, and exhausted, as to be incapable of yielding remunerating crops, probably yielding a fourth, a third, or even a half less than the same land did when it was first cleared up; even on lands where weeds have not yet obtained so complete an ascendancy besides indicating a low and slovenly system of farming, they entail an immense loss on the farmer, and through him on the country, of an aggregate amount, that if the actual amount could be calculated would appear really frightful and ruinous; weeds are an army of thieves, if the pilfering of each is of small amount, the aggregate is immense.

The presence of weeds in cultivated land is without doubt an unmitigated evil, and it is impossible to conceive of even one step being permanently taken toward an improved system of agriculture that does not include clean cultivation.

Some weeds, like the thistle, and charlock (wild mustard), that showy weed that covers the fields during early summer with its brilliant yellow blossoms, can be seen, and are noticed by every passer by—even those travelling on our railways observe them. This, however, is not the case with quack, or more properly couch grass—"it does not show itself much in a crop—it may even be present on land in considerable quantities without being noticed by any but a practical farmer, yet it is just as injurious to the crop, and as hard to clean out of the land, as almost any other weed."

The Botanical name of quack (couch grass) is *Triticum Repens*, said to be a species of wheat of a perennial character, but although of the same genus as wheat, it is chiefly known to farmers as a very troublesome weed. It is common in most parts of Europe and North America; it grows to a height of from one and a half to three feet, according to the richness of the soil; it has an erect smooth stem, hard smooth joints—five or six leaves—dark green, roughish—the upper ones broader than the lower ones; it has two-rowed spikes and flat spikelets; when growing it resembles Italian rye grass.

Couch is a very troublesome weed, as, besides growing from seed, it spreads its long cord like roots in all directions beneath the surface, weaving the soil into a kind of netting. Lord Berners states "that he had found in Leicestershire hundreds of acres netted over with *twitch* as thick as a Life Guardsman's cane;" it is so tenacious of life that every joint of

its long roots with a vitality at all will grow and produce a fresh shoot, that in favourable situations becomes a new plant, creeping along under the surface of the soil and spreading over the field with great rapidity. To show how easily couch can be propagated and spread abroad, we may state that we have known an instance where a traveller fed his horse with hay at a farmer's house, and left on the ground as many seeds of couch, that grew, and would soon have stocked the farm, had they not been attended to and destroyed; and in another case a farmer got some choice vegetable, or flower roots, to which there had adhered a few small pieces of couch roots that speedily spread in the garden. Stephens, in his Book of the Farm, says: "The couch grass—*triticum repens*—is not despised everywhere, as it is gathered from the land and washed, and in the markets of the South of Europe, in bundles of the size a small hay fork would take up, sold for three pence or fourpence each, and the horses and mules seem to relish it as much as the boys do a stick of liquorice."

Such is this quack, or couch grass. The question is, how are we to get quit of it—to kill it—to clean it out of the ground—that is no easy matter. One of our earliest agricultural experiences was gathering with our hands the quack roots that the harrows had brought to the surface, in preparing land for turnips—going over the field again, and again, picking up the roots—shaking the earth off them—gathering them into small heaps and burning them on the ground—carefully attending to the heaps while burning—to see that all the roots burnt. If the weather was damp so that this could not be done, the roots was carted off the field, and dumped over some water bank, or old quarry hole, or waste place—in some cases where the quack roots were very plentiful, and could not easily be shaken clean, the whole was carted off—laid into large heaps well mixed with lime fresh from the kiln, when, after the heaps had lain some time, and been turned over once or twice, it was spread on the land for manure, but some other method that requires less labour and time must be tried here.

When quack is very bad, covering the whole field, a good thorough summer fallowing is the best method, but it must be well attended to during the dry season—after the land has been well plowed and harrowed: if the roots of the quack abound near the surface, a strong toothed rake, either a steel toothed horse hay rake, or a rake made especially for the purpose, that can be lifted up and the quack roots left in winrows which, when dry, can be either burnt up or drawn off the field. This process must be repeated, cultivating and raking the surface to the depth of four or five inches (crossing and angling the field, if necessary), till the ground is completely cleaned of roots, and a fine tilth given to the entire top soil.

Where the soil is clay and works up cloddy, a good heavy chain harrow answers very well for grinding down the clods after the plowing and cultivating, or they may be crushed with a heavy roller: in that case the land should be cultivated immediately to prevent the couch taking root. This can only be well done where land is pretty clear of stumps and stones. Where land is foul with quack grass, there is often enough left round fences, if no where else, to soon spread over the ground again, if great care is not taken to kill it all, as quack grass seems to spread by its roots almost as fast in hay and pasture fields as it does among cultivated crops.

We have seen a method of killing couch grass, followed with a good degree of success. It was this: The land was allowed to lie until about the first of July, and was kept pastured down by sheep and cattle as close as possible, so that the couch and all other grasses were eaten off close to the ground—the closer the better. The land was then ploughed, laying the furrows over as close and flat as possible. It was well harrowed and immediately sown with buckwheat. The buckwheat grew fast, was a heavy crop, and smothered out most of the quack. As the buckwheat shelled out considerably, the field was planted the following season, thus killing out any quack that was left, and destroying the buckwheat that grew up. This was on low, damp ground that could not very well be summer fallowed, and it killed out the quack without losing a crop.

We have seen land summer fallowed up till the proper time to sow buckwheat, and then sown with buckwheat. This was followed the next season with a grain crop and a good deal of buckwheat grew up in that crop—nearly as much buckwheat as barley.

We have also seen land ploughed in spring and sown with buckwheat about the last

of May, and as soon as the buckwheat came into blossom it was ploughed carefully down, with a heavy chain on the plough so that every green thing was dragged under and covered over, then immediately sown with buckwheat again. This crop was also ploughed under in the same way, for the purpose of both enriching the ground and destroying the quack. In all these cases the quack was nearly all killed out, leaving the land in good order for future crops.

Where quack grass is only in patches it can be killed out with a hoe-crop. If this method is tried great pains should be taken to clean the land of the roots as much as possible before any planting is done, as this will save a good deal of hoeing afterwards, then cultivate and hoe thoroughly through the season. This method requires a great amount of hand labour to do the work properly as it ought to be done.

All these methods have been followed with a good degree of success, and if they did not completely eradicate the quack they certainly destroyed a very large amount of it, and prevented it from injuring the succeeding crops for many years afterwards. The great point in all cases, whatever method is tried, is to do the work as thoroughly as possible, not taking more in hand than can be done well, so that no plant is left, either to go to seed, or to spread by their roots. It is only "eternal vigilance" that will either clean a farm of this pest, or keep it clean when made so.

As the seed of the quack grass is hardy, where any plants of it are found growing among hay, great care should be taken that it is not spread over the farm in the manure. Where the couch grass abounds, all the manure should be turned over and well rotted before it is spread on the land.

Much has been written about cleaning land and keeping it clean without any summer fallowing; indeed, summer fallowing is looked upon by many as old-fashioned and out of date, but where a farm is dirty and foul with noxious weeds, thistles, charlock, couch, or any other weeds, we know of no method of cleaning it equal to a good thorough summer fallow. Besides cleaning the land, summer fallowing is the best preparation for a crop of wheat, and we have often observed how much better land that has been well prepared and is in good manurial condition will withstand our usual summer droughts than other land of the same quality not so prepared does.

When that highly-favoured people, the children of Israel, were promised a land (said to be one of the fairest and most fertile portions of the earth) God commanded them to allow the land to lie untilled every seventh year, and on each occasion when the command is given or renewed, this idea, among others, is, "it is a year of rest unto the land," "then shall it *rest* and lie still," and because the chosen people disobeyed and neglected this command, they were carried into captivity "until the land had enjoyed her Sabbaths, because it did not *rest* in your Sabbath when ye dwelt in the land."

Whether the land requires, or would be benefited by a stated period of rest, we know not, but we think if one-seventh part of all the arable land in our fair Province was well cleaned every year the other six parts would yield more and produce better crops than the whole does at present, and would ultimately be more remunerative and satisfactory to the owner and occupant. The whole country, too, would soon be freer from weeds and in better condition to produce good crops in the future than it is at present.

EDUCATIONAL SCHEME OF THE AGRICULTURE AND ARTS ASSOCIATION.

ANNUAL EXAMINATIONS.

PAPERS USED IN 1884.

AGRICULTURE.

Instructions.

Put the number of the question before your answer.

Confine your answers *strictly* to the questions proposed.

Your name is not given to the examiners, and you are requested not to write to them about your answers.

SECOND CLASS.

First paper.—TIME: Three hours.

1. Name the proximate constituents of all soils, and of root and cereal crops.
 - (a) Whence and in what form do plants obtain most of the materials for the "organic" part of their structure?
 - (b) *Roots and cereals*—which take the larger amount of inorganic matter from the soil? and what two substances preponderate in the former?
2. Describe the physical conditions and give a list of the substances on which the fertility of a soil depends.
3. Pure clay is not a constituent of plant food. Why, then, is it of so much importance in soils? What functions does it perform, and upon what does its agricultural value depend?
4. Distinguish between the *active* and *dormant* constituents of soils, and enumerate the various operations and influences which assist in converting the latter into the former.
5. What is the chief source of nitrogen in the soil? What is meant by "nitrification," and under what condition does it take place?
6. State concisely and systematically the chief physical and chemical effects produced in soil.
 - (1) By tillage.
 - (2) By grazing.
 - (3) By rest.
- "An outlay for drainage would be the best investment that many farmers in Ontario could make."
 - (1) State and explain the injurious effects of stagnant water in land.
 - (2) Give a brief statement of the objects, process, and results of underdraining.
8. Explain how the value of farm yard manure is affected by the age, condition, and character of the animals contributing to it; the quality of their food; the kind and quantity of the litter; and the mode of preparation.
 - (a) When, in what condition, and how would you apply farm yard manure to light land and to heavy land for crops of barley and fall wheat respectively?

SECOND CLASS.

Second paper.—TIME: Three hours.

1. "The use of lime without manure
Will make the farm and farmer poor."
- (1) Explain how this is.

(2) On what kind of soil, in what form, and with what beneficial results is lime used?

2. Wheat, oats, peas, turnips, mangels, and potatoes.

(1) Which of these crops may be described as shallow or surface feeders, and which as deep or to a considerable extent sub-soil feeders?

(2) Which is most exhaustive on the soil?

(3) Which are most benefited by the use of farm-yard manure, and what is generally the most effective special manure for each?

3. Enumerate the advantages and disadvantages of "summer fallowing;" compare the results with those of green manuring; and state how the two processes may be most advantageously combined.

(a) What kind of soil is most benefited by each of these processes?

4. What general principles should guide you in the rotation of crops?

(a) Take some section of Ontario; describe briefly the physical conditions; and give a rotation which, under ordinary circumstances, would be adapted to mixed farming on light and on heavy soils in that locality.

5. Sketch briefly the course which you would pursue with a view to cleaning and enriching a heavy clay farm that is overrun with thistles and partially exhausted by an injudicious system of cropping.

6. Write notes on—

(1) The kinds of land best adapted to turnips and to mangels.

(2) The preparation of the soil for each of these crops.

(3) The time of sowing.

(4) The subsequent cultivation.

7. What is the best time for planting evergreens and deciduous trees?

Mention the chief points to be observed in the process of transplanting, and in the first two years' management, in order to avoid loss and secure a healthy growth.

8. State the main points to be considered in selecting—

(1) A bull for use in breeding animals for beef.

(2) A steer for stall-feeding.

SECOND CLASS.

Third paper.—TIME: Three hours.

1. Enumerate the causes of smut and rust, so far as they are known; and state briefly the means which the best practice suggests for their prevention.

2. Name the kinds and quantities of grass and clover seeds which you would use per acre in laying land down to permanent pasture in this province.

(a) With the conditions which exist in Ontario, have we or have we not reason to expect satisfactory results from such pastures? and why?

3. Describe briefly the following breeds of cattle and sheep, indicating the distinctive peculiarities, the best points, and the greatest defects in each:

(1) Short Horns, Herefords, and Polled Angus.

(2) Ayrshires, Jerseys, and Holsteins.

(3) Leicesters, South Downs, and Shropshire Downs.

4. Explain what is meant by "prepotency," "atavism," "in-and-in breeding," and "the law of correlation."

(a) Enumerate some of the favourable and unfavourable effects produced by the last two, giving instances from our improved breeds of cattle or sheep.

5. Give a brief statement of the means by which breeders may modify the shape and character of animals.

6. What are the "carbo-hydrates," and the "albuminoids," and what functions do they respectively perform in animal nutrition?

7. Define the term *nutritive ratio*, and give the ratio which should be observed in feeding (1) young cattle, (2) fattening steers, (3) cows giving milk.

8. Write notes on the importance of *soil cultivation*, and *manure* (not containing amongst other things a bulk ingredient) for animals. Give reasons under each head.

9. Describe briefly the *different* *soils* *and* *a* *part* *not* *adapted* *to* *an* *apple* *orchard*; and state concisely the results of your *theory* *and* *experience* in:

- (1) The preparation of the soil for an orchard.
- (2) The cultivation of ground and attention to trees for first eight or ten years.
- (3) Trimming, pruning, and grafting.
- (4) Best means of guarding against mice and insect pests.
- (5) Shelter from prevailing winds.

AGRICULTURE AND ARTS ASSOCIATION.

ANNUAL EXAMINATION.

AGRICULTURE.

Instructions.

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THIRD CLASS.

First paper.—TIME : Three hours.

1. Mention the chief constituents of a fertile soil, and give a list of the principal soils in Ontario, in the order of their productiveness.

2. State how land is affected—

- (1) By tillage operations.
- (2) By grazing.
- (3) By rest.

3. Describe what you consider the best method of managing a sandy loam, so as to secure the best results without impairing its productiveness.

4. Give a statement of what you regard as the best means of restoring fertility to light and heavy soils respectively, that have been partially exhausted by continued cropping.

5. Enumerate the advantages which result from the drainage of land, giving reasons.

(a) Why is underdraining better than open drains or furrows on the surface?

(b) In heavy clay soil, with a stiff and almost impervious subsoil, how deep and how far apart should the drains be?

6. How would you manage farm yard manure, so as to get the largest quantity with the least possible waste of valuable constituents?

7. What is gained by the use of green crops as fertilizers, and what plants may be most profitably grown for the purpose?

8. Name the crops that are most benefited by the use of salt as a fertilizer, and state briefly the quantity to be used, and the best means of applying it in each case.

THIRD CLASS.

Second paper.—TIME : Three hours.

1. What are the special advantages arising from autumn cultivation, and how do you account for them?

2. Take a stubble field of clay loam in medium condition, and describe briefly the best methods of preparing it for fall and spring wheat respectively.

3. Explain what is meant by the rotation of crops. Why is it necessary, and what is the difference between a good and a bad rotation?

(a) Describe in a few words the soil on your farm or in the neighbourhood, and give a rotation which under ordinary circumstances would be adapted to it.

4. At what stage should a mixture of clover and timothy be cut, to get the best quality of hay—

(1) For horses?

(2) For fattening cattle!

5. Name and describe briefly the points or characteristics in a steer which indicate a propensity to fatten.

6. Give what you consider the essential characteristics of a good dairy farm.

8. Explain what is meant by "atavism" and "prepotency" in breeding animals, and state your views as to the importance of the latter and its relation to pedigree.

THE AGRICULTURAL RESOURCES OF ONTARIO.

By JOHN CARNEGIE, M.P.P., OF THE AGRICULTURE AND ARTS ASSOCIATION OF ONTARIO.

*Prepared for the meeting of the British Association, at Montreal, on the
27th of August, 1884.*

As it would be necessary, in order to arrive at a just estimate of the agricultural resources of Ontario, to take into consideration the capabilities of a territory covering from one to two hundred thousand square miles, as well as a great variety of products, the writer deems it better to limit his observations to that portion of the Province whose resources are already moderately well developed, and which may be conveniently described as lying south of a line drawn west from the Town of Pembroke to the Georgian Bay and of Lake Huron.

Although this portion of Ontario contains little more than one-third of its admitted and less than one-fifth of its claimed area, yet within these limits there is an acreage one-fourth greater than that of Scotland, or of about 25,000,000 acres lying between the 74th and 83rd degrees of west longitude and the 42nd and 46th parallels of north latitude. Besides being the most southerly located portion of the Dominion of Canada, its climate is so favourably affected by its position to the large bodies of water contained in the Great Lakes, that the "cold waves," which not unfrequently prove injurious to the crops of the neighbouring and otherwise more favourably located states, are shorn of their virulence before reaching Ontario, and the cultivation of a greater variety of productions is rendered not only possible but more profitable within this area than within any other equal area of the American continent.

As the most satisfactory and highest average returns are only obtainable by the agriculturist, where a system of mixed husbandry can be pursued with profit, it must be obvious that the district capable of producing the greatest variety of crops in fairly remunerative quantities, in proportion to the labour and capital employed in their production, and at the same time adapted to stock raising, is richer in agricultural resources than one in which the farmers' operations are limited to the profitable growth of one, two, or even three cereals—no matter how abundant their yield may be in favourable seasons.

In such districts extremes are continually following one another, while in the former, if the cultivator is favoured with no feasts, he is equally free from famines.

That Ontario is particularly favoured in this respect will be best proved by a citation of its products in 1880, as set forth in the Census Returns of 1881. They were as follows:—

Field Products :

Fall wheat	20,193,067 bush.
Spring wheat	7,213,024 "
Barley	11,279,841 "
Oats	40,209,929 "
Peas and beans	9,134,872 "
Indian corn	8,096,782 "
Rye	1,598,871 "
Buck wheat	841,649 "

Roots :

Potatoes	18,893,996 "
Turnips	33,856,721 "
Other roots	6,479,222 "

Meadows :—

Clover and timothy hay	2,038,659 tons.
Clover and timothy seeds	173,219 bush.

Fruits :

Apples	11,038,659 bush.
Grapes	3,967,553 lbs.
Other fruits	644,707 bush.

Miscellaneous :—

Maple sugar	4,169,706 lbs.
Tobacco	160,251 "
Hops	615,967 "
Flax seed	38,208 bush.
Flax and hemp	1,073,197 lbs.

Then as a natural result, and largely depending upon the successful cultivation of those products, the following animals and animal products were marketed during the twelve months ending April, 1881, viz. :—

Cattle, killed or sold	363,043
Sheep, killed or sold	748,972
Swine, killed or sold	796,548
Wool, pounds	6,013,216
Honey, pounds	1,197,628

Besides 116,392 colts and fillies coming forward—a certainly no mean showing for the 304,630 persons engaged in their production.

It having been asserted that the District under consideration compared favourably with any other equal area of America, in the variety, quantity and value of its products, a few figures, taken from the last census returns for this continent, in support of this claim, will not be out of place, especially as so much has been written laudatory of the neighbouring states, and, by implication at least, detrimental to Canada.

To the better illustrate this point tables have been prepared, and are hereto attached, showing the relative position of Ontario as a producer of cereals as compared with the seven States of the American Union producing the largest quantities of wheat, barley, oats, peas and beans, rye, buck-wheat, or Indian corn, and the result is :—

1st. That in order to reduce Ontario to the relative position about to be noted, the resources of no less than twenty-two States, covering an aggregate area of nearly one million square miles, or over 600,000,000 acres, and containing a population of nearly thirty eight millions, as compared with Ontario's less than two millions, had to be drawn upon :

2nd. That notwithstanding the unfairness of such a comparison, Ontario alone attains even an eighth place in six of the seven cereals named, and that in these she

manages to secure: a first place as a producer of barley and peas and beans—her production of the former being largely in excess of that of every State in the union, save California, and her production of the latter nearly equaling that of the entire union; a third place for oats and buck-wheat; a fifth for rye; and a sixth in yield per acre, and an eighth in quantity for wheat, while the larger, more populous, easier cultivated, and reputable State of Illinois only secures a first in wheat, oats, and corn; a second in rye, and then disappears from the tables altogether.

Although the data at the writer's command does not enable him to pursue these comparisons further from the census records of the two countries, he is, through the kindness of Mr. Blue, of the Ontario Bureau of Industries, enabled to compare Ontario's crop of 1882 with that of perhaps the best agricultural state in the union—Illinois—for the same year, in the important particulars of yield and value per acre.

Comparing the figures given, for Ontario in the annual report of her Bureau of Industries, and for Illinois in the annual report of its Department of Agriculture, with one another, we obtain the results given in the following:—

TABULATED STATEMENT.

CROP.	Yield per acre.		Difference in favour of		Value per bushel.		Difference in favour of		Value of product per acre.		Difference in favour of	
	Ont.	Ill.	Ont.	Ill.	Ont.	Ill.	Ont.	Ill.	Ont.	Ill.	Ont.	Ill.
Fall Wheat	26.03	18.51	7.79		\$ c. 90	\$ c. 87	\$ c. 3		\$ c. 23.67	\$ c. 16.10	\$ c. 7.57	
Spring Wheat	16.50	14.59	1.91		94	81	13		15.51	11.89	3.70	
Barley	28.60	27.17	1.43		61	61			17.44	16.37	.87	
Oats	36.40	40.32		3.92	37	32	5		13.46	12.90	.56	
Rye	18.70	18.31	.39		60	56	4		11.22	10.25	.97	
Peas	19.60				70				13.72			
Corn	33.00	24.00	9.00		48	42	6		15.84	10.08	5.76	
Buckwheat	25.02	16.00	9.02		70	77		7	17.51	12.32	5.19	
Beans	20.07	20.00	.07		1.65	2.22		57	33.11	44.40		11.29
Potatoes	115.00	100.00	15.		.56	.58		.2	64.40	58.00	6.40	
Turnips	448.00	116.00	332									

Favourable, however, as these figures are to Ontario, they are not so favourable as they would be had the Returns of the Department at Washington been taken instead of those of the Illinois Department. For instance, while the yield of fall wheat is given at 18.51 bushels per acre in the foregoing table, the Washington authorities place it at only 16; that of barley at 22½ instead of the 27 given; oats at 37.4 instead of 40.32, and rye at a decrease of 1.71 bushels per acre—differences which would increase the cash balances per acre in favour of Ontario: on fall wheat from \$7.57 to \$9.74; on barley from 87c. to \$6.62; on oats from 56c. to \$1.48, and on rye from 97c. to \$1.91 per acre.

Gratifying as these results must be to every loyal-hearted Briton, yet two or three points remain to be noted in order to bring out their full significance as an evidence of the superiority of Ontario's agricultural resources.

Of the thirteen million odd acres under the crops named in the table, in Illinois, in 1882, no less than over seven million acres were under Indian corn and over five millions under fall wheat and oats, leaving only some 600,000 acres for the remaining eight crops. In Ontario, on the other hand, only one crop occupied a little more than one fourth of the acreage under the same crops, while its five chief crops did not aggregate as large a percentage of the whole as the three named did in Illinois. And the result of this dependence on two or three crops has just been such as the writer has already predicted. According to the State returns for the ten years ending with 1882, the Illinois farmer had, during these years, four good crops of Indian corn and six bad ones, and six good crops of wheat and four bad ones. Happy for the Illinois farmer, however, the bad

crops of both only came together twice, thus proving that the farmers' safety lies, not in "specialties," but in a variety of crops.

In view of the large non-agricultural population contained in Illinois, the small quantities of barley, peas, buckwheat, beans and roots grown can only be accounted for on the assumption that its soil and climate are not favourable to their growth. And this assumption is materially confirmed by the fact that in all these articles the price is either as high or higher in Illinois than in Ontario, while in all the other crops the position is reversed.

In order that the decided advantage which these statistics prove Ontario to possess, as compared with Illinois, may be fully appreciated, it may be stated that the per acre differences first mentioned aggregated, on her crop of 1882, over \$15,000,000, made up as follows:—

On 1,188,520 acres fall wheat, at \$7.57.....	\$8,997,096
" 586,817 " spring wheat, at \$3.70.....	2 171,222
" 848,617 " barley, at 87c.....	738,200
" 1,375,415 " oats, at 56c.....	770,232
" 189,031 " rye, at 97c.....	183,360
" 206,924 " corn, at \$5.76.....	1,191,882
" 106,700 " potatoes, at \$6.40.....	1,028,480
Total.....	\$15,080,571

And that were the Washington figures taken as a basis for this calculation this sum would be still further increased by \$8,800,000.

In 1880 the number of persons engaged in agricultural pursuits in Ontario was 304,630. Assuming that this number had increased to 315,000 in 1882, the differences just noted were equivalent, in the first instance, to over \$47, and in the second to over \$75 per head of those so employed.

One more test and the writer has done with this branch of his subject.

The last census for the two countries gives the numbers engaged in agricultural pursuits as 304,630 in Ontario, in 1880, and as 436,371 in Illinois, in 1879. For various reasons it will not be unfair to Illinois to assume that the number of persons so employed increased five per cent. in that State during the three years, as against two and one half per cent. during two years in Ontario. This would make the number so employed in 1882, in Illinois 458,189, and in Ontario 312,245. Then, by adding together the value of each of the eleven crops mentioned, at the yield and prices given, in the State and Provincial returns, we find the aggregate value for Ontario to be \$102,598,167, and for Illinois \$163,518,136—equal to \$325 per head for those so engaged in Ontario, as compared with \$356 in Illinois. This shows a difference of \$31 per head against Ontario, which the Washington returns would, however, reduce to \$3. But, when it is remembered that even in the best cultivated portions of Ontario much is still being done in the way of permanent improvements, and more particularly that many of those engaged in agricultural pursuits in Ontario are chiefly engaged in redeeming the soil from a state of nature which does not impede the operations of the pioneer in Illinois, there will be little difficulty, even after giving Illinois the benefit of its own figures, in arriving at the conclusion that the real balance in this, as in so many of the preceding comparisons, is in favour of the agricultural resources of Ontario, even when made with the far-famed and much lauded State of Illinois.

It will have been noticed by a statement of products, given in the earlier part of this paper, that the production of fruits has already made considerable progress. The rapidity with which Ontario's resources are being developed in this direction, will be best illustrated by the following statement of its fruit crops, in 1870 and 1880, as obtained from the Census Returns:—

	1870.	1880.
Apples, bush.....	5,486,504	11,400,517
Grapes, lbs.....	1,028,431	3,697,555
Other fruits, bush.....	292,878	644,707
Wine in dollars.....		\$59,200

An increase of from one to two hundred and fifty per cent. in ten years is certainly the best possible evidence that those engaged in its cultivation find it profitable. Nor are reasons wanting to justify us in looking forward to a still larger increase in the future. In 1873 at Boston, and especially in 1876 at Philadelphia, Ontario fruit may be said to have carried all before it, and did much to secure for itself the world wide reputation to which Canadians believe it entitled. Besides carrying off many of the highest awards it also drew forth from eminent pomologists such encomiums as:—

"Decidedly the best show, taking into consideration variety, quality, number, and taste."—"Without question every unprejudiced visitor, competent to form a just estimate, would say that the display of Ontario was the most instructive and comprehensive exhibit of fruits made at the Centennial."—"No State in the Union displayed as full and exhaustive a collection of hardy out door varieties of grapes."—"Pomological Hall is now a scene of beauty and activity difficult to describe. Our neighbours north of the great falls and the great lakes actually led off in this friendly rivalry."—"They are to be congratulated upon the fruit-producing capabilities of their soil and climate." Testimony such as this, like good wine, needs no bush. And Ontario, too, it is evident, is destined to become a wine-producing country. Although the manufacture of wine is but in its infancy the day of experiment is past and the only question remaining to be solved is the extent of territory adapted to the growth of the grape for this purpose. In the western section of the Province, the writer is informed, the average product is double that of France, while the quality of the wine made is in no way inferior. Indeed, it is asserted that the climatic conditions are more favourable for the cultivation of the grape on Pelee and adjacent islands than in any other part of America.

As for that most important fruit, the apple, Ontario seems to be particularly adapted. The rapidity with which her export trade in this fruit is increasing, now that she is beginning to get credit for that which is her own, and not for that which belongs to others, is the best evidence of the perfectness and valuable keeping qualities of the *bona fide* Ontario apple, and there can be no doubt but that, with the increased care and attention which this export demand is sure to beget, it will keep pace with the supply, rapidly as it has and is destined to increase.

Among the "other fruits" grown in the open air are included peaches, pears, plums, currants, cherries, strawberries, etc., all of which produce large and regular crops over a more or less extended area, and find a ready and generally profitable market in those sections of the Dominion where they cannot be grown with the same facility.

Although it is not contemplated that this paper should contain more than a brief reference to a few of Ontario's many resources, yet there still remains one department of its farm work, without a reference to which even this brief and necessarily imperfect paper would be incomplete, and that is the facilities which it affords for stock-raising—a branch of farm work which lies at the very foundation of a continuous and profitable grain and root production. No matter how rich the virgin soil may be, steady cropping, without any return to the soil of the constituents taken from it, must result in an ever-decreasing yield until a point is reached when it will fail to yield a substance to the tiller. Under these circumstances the facilities afforded for maintaining the fertility of a district become of quite as much importance as its natural fertility in estimating the value of its agricultural resources. As yet no better or more economical means to this end has been discovered than that of combining stock-raising with the cultivation of the land, as generally practiced in Ontario. For years past much attention has been given to the introduction of new and improved breeds of all kinds of domestic animals, and to the improvement of existing breeds, and so freely have the best herds and flocks both in Britain and the neighbouring States been drawn upon for this purpose that it has become a question whether there are not, to-day, better animals of their respective kinds in Ontario than in the herds and flocks from whence they sprung. With reasonable protection and care our climate has proved itself favourable to the development of healthy and vigorous constitutions, and the result is that Canadian-bred animals are being sought after on this very account. As to what can be accomplished in the way of preparing animals for the shambles, we have the records of the great fat stock shows, held annually at Chicago, to prove that Ontario-bred and fed cattle and sheep can more than hold their

own with those of the Prairies and great corn growing States—another proof, no doubt, that variety in food is as beneficial to the animal as variety of crops is to the farmer. But, although it might be questioned whether the Chicago awards had not been obtained regardless of cost, the rapid progress made in our exports of meat producing animals proves that the business is a profitable one. An increase of exportations from 6,910, cattle and 9,504 sheep in 1877 to 55,625 cattle and 114,352 sheep in 1883, leaves no doubt as to which side the balance is on. Moreover, during the same period the production of butter and cheese has also increased enormously.

But, satisfactory as Ontario's past progress has been, and as her present position is, the natural resources of even that portion of it under consideration is still far from being fully developed. Of its 25,000,000 acres less than 11,000,000 are returned as "cleared," while much of that so returned has made only the first step towards its redemption from a state of nature. Even the County of York, in which the capital of the Province and the second city of the Dominion is situated, returns twenty per cent. as uncleared, while other counties, scarcely less favourably situated, return from thirty to forty and even fifty per cent. as untouched by the hand of man for either the purposes of cultivation or pasturage. Looking to this vast field of still undeveloped resources; looking to the unsurpassed facilities which the Province in many places affords for manufacturing enterprises so valuable as a fosterer of agriculture—and remembering her position with regard to the rest of the Dominion and what has already been accomplished, the writer feels that, flattering as is the following from the pen of the Hon. David A. Wells of the neighbouring States, it is none too flattering to the resources and capabilities of his native Province. Mr. Wells says, with regard to the very district whose resources have been so imperfectly brought under notice:—"North of Lakes Erie and Ontario and the River St. Lawrence, east of Lake Huron, south of the 45th parallel, and included mainly within the present Dominion Province of Ontario, there is as fair a country as exists on the North American continent; nearly as large in area as New York, Pennsylvania and Ohio combined, and equal if not superior as a whole to those States in its agricultural capacity. It is the natural habitat on this continent of the combing wool sheep, without a full, cheap and reliable supply of the wool of which species the great worsted manufacturing industries of the country cannot prosper, or, we should rather say, exist. It is the land where grows the finest barley, which the brewing interests of the United States must have if it ever expects to rival Great Britain in its present annual export of over eleven millions of dollars worth of malt products. It raises and grazes the finest of cattle, with qualities especially desirable to make good the deterioration of stock in other sections; and its climatic conditions, created by an almost encirclement of the great lakes, especially fit it to grow *wheat*. Such a country is one of the greatest gifts of Providence to the human race; better than bonanzas of silver, or rivers whose sands contain gold.

RELATIVE POSITION OF ONTARIO as a producer of cereals to the seven largest producing States in any one of those named; arranged in the order of their gross production.

WHEAT.

State.	No. of bush. produced.	Yield per Acre.	Order per Acre.
1. Illinois	51,110,502	15.88 bush.	4th.
2. Indiana	47,284,853	18.00 "	2nd.
3. Ohio	46,914,869	18.00 "	3rd.
4. Michigan	35,532,543	19.19 "	1st.
5. Minnesota	34,601,030	11.36 "	7th.
6. Iowa	31,154,205	10.22 "	8th.
7. California	29,017,707	15.84 "	5th.
8. Ontario	27,406,091	14.06 "	6th.

BARLEY.

State.	No. of bush. produced.
1. <i>Ontario</i>	14,279,841
2. <i>California</i>	12,579,561
3. <i>New York</i>	7,792,062
4. <i>Wisconsin</i>	5,043,118
5. <i>Iowa</i>	4,022,588
6. <i>Minnesota</i>	2,972,965
7. <i>Nebraska</i>	1,744,686
8. <i>Ohio</i>	1,707,129

OATS.

1. <i>Illinois</i> ..	63,189,200
2. <i>Iowa</i>	50,610,591
3. <i>Ontario</i>	40,209,929
4. <i>New York</i>	37,575,506
5. <i>Pennsylvania</i>	33,841,439
6. <i>Wisconsin</i> ..	32,905,320
7. <i>Ohio</i>	28,664,505
8. <i>Minnesota</i>	23,382,158

PEAS AND BEANS.

1. <i>Ontario</i>	9,434,872
2. <i>New York</i>	1,569,541
3. <i>N. Carolina</i>	957,936
4. <i>Georgia</i>	884,778
5. <i>Michigan</i>	769,539
6. <i>S. Carolina</i>	738,834
7. <i>Mississippi</i>	686,141
8. <i>Tennessee</i>	667,960

RYE.

1. <i>Pennsylvania</i>	3,683,621
2. <i>Illinois</i> ..	3,121,785
3. <i>New York</i>	2,634,690
4. <i>Wisconsin</i>	2,298,513
5. <i>Ontario</i>	1,598,871
6. <i>Iowa</i>	1,518,605
7. <i>New Jersey</i>	949,064
8. <i>Kentucky</i>	668,050

BUCKWHEAT.

1. <i>New York</i>	4,461,200
2. <i>Pennsylvania</i>	3,593,326
3. <i>Ontario</i>	841,649
4. <i>New Jersey</i>	466,414
5. <i>Michigan</i>	413,062
6. <i>Maine</i>	382,701
7. <i>Vermont</i>	356,618
8. <i>Wisconsin</i>	299,107

INDIAN CORN.

	No of bush. produced.
1. Illinois	325,792,481
2. Iowa	275,024,247
3. Missouri	202,485,723
4. Indiana	115,482,300
5. Ohio	111,877,124
6. Kansas	105,729,325
7. Kentucky	72,852,263
8. Nebraska	65,450,135

While even in this cereal Ontario comes in as a 27th, with 8,096,782 bush.

OFFICIAL LIST OF PRIZES AWARDED AT THE GRAND DOMINION AND
THIRTY-NINTH PROVINCIAL EXHIBITION OF THE AGRICULTURE
AND ARTS ASSOCIATION OF ONTARIO, HELD AT OTTAWA, FROM
SEPTEMBER 22ND TO 27TH, 1884.

HORSES.

CLASS I.

THOROUGHBRED STALLION, 4 YEARS OLD AND UPWARDS.

14 ENTRIES.

JUDGES.—Lt.-Col. D. E. Boulton, Cobourg; M. McIntyre, Gananoque; Alex. Robillard, Ottawa.

PRIZES OFFERED :

First prize, \$35.

Second prize, \$25.

Third prize, \$15.

- 1st prize, Robert Craik, M.D., Montreal, "Terror," bred by J. A. Grimstead, Walnut Hill Stud, Ky., U. S.; sire, Alarm; dam, Lady Wallenstein.
2nd do Robert Craik, M.D., Montreal, "Day Star;" bred by John M. Clay, Ashland Stud, Ky., U.S.; sire, Star Davis; dam, Squeeze'em, by Lexington.
3rd do John Clark, Ottawa, "The Magyar."

THOROUGHBRED 3 YEAR OLD FILLY.

PRIZES OFFERED :

First prize, \$16.

Second prize, \$10.

Third prize, \$5.

- 1st prize, Judge Henry, Ottawa, "Vera," bay; 3 years old; bred by and the property of exhibitor; sire, Tubman; dam, Norah (vol 10, p. 148) by War Dance.

THOROUGHBRED BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$7.

- 1st prize, Judge Henry, Ottawa, "Norah," Brown, 11 years old, bred by and the property of exhibitor; sire, Somersault; dam, Attraction, (vol. 10 p. 148), by New Minister.

THOROUGHBRED FOAL OF 1884.

PRIZES OFFERED :

First prize, \$8.

Second prize, \$6.

Third prize, \$4.

- 1st prize, Judge Henry, Ottawa.

CLASS II.

125 ENTRIES.

ROADSTER HORSES, FOR DRIVING OR THE SADDLE.

JUDGES. A. R. McGregor, Sarnia; Ira F. Culp, Beamsville; N. Cahoon, Picton.

ROADSTER STALLION, 4 YEARS OLD AND UPWARDS.

PRIZES OFFERED :

First prize, \$35.

Second prize, \$25.

Third prize, \$15.

1st prize, James Skead, jr., Ottawa.
 2nd do Sheldon Y. Bullis, Plum Hollow.
 3rd do Robert Stewart, Aylmer, Quebec.

ROADSTER STALLION, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15.

Third prize, \$10.

1st prize, Wm. Harrison, Ottawa.
 2nd do P. P. Barrert, Hespeler.
 3rd do D. Stewart, Aylmer, Quebec.

ROADSTER STALLION, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$12.

Third prize, \$6.

1st prize, Wm. McDaniel, Carp.

ROADSTER YEARLING COLT.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

1st prize, John Johnston, Odessa.
 2nd do Thomas Buller, Ottawa.
 3rd do Albert Hagar, Plantagenet.

ROADSTER STALLION, ANY AGE.

PRIZE OFFERED :

Dominion Gold Medal.

David Stewart, Aylmer, Quebec.

ROADSTER FILLY OR GELDING, 3 YEARS OLD.

PRIZE OFFERED :

First prize, \$16.

Second prize, \$10.

Third prize, \$6.

1st prize, Hugh Alexander, Ottawa.
 2nd do Thomas Henderson, Ottawa.
 3rd do David Stewart, Aylmer, Quebec.

ROADSTER FILLY OR GELDING, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

1st Prize, Thomas Henderson, Ottawa.
 2nd do John Clark, Ottawa.
 3rd do John McCandlish, Ottawa.

ROADSTER YEARLING FILLY OR GELDING.

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

1st prize, John McCandlish, Ottawa.
 2nd do Rev. W. W. Ryan, Ormstown.

ROADSTER BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$12.

Third prize, \$6.

1st prize, Robert Lee, Leitrim.

2nd do Ben. Rothwell, Ottawa.

3rd do David Stewart, Aylmer, Quebec.

ROADSTER FOAL OF 1884.

PRIZES OFFERED:

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

1st prize, Robert Lee, Leitrim.

2nd do David Stewart, Aylmer, Quebec.

3rd do Thomas Clark, Ottawa.

PAIR ROADSTER MATCHED HORSES, IN HARNESS (Stallions excluded).

PRIZES OFFERED:

First prize, \$40.

Second prize, \$20.

Third prize, \$10.

1st prize, W. H. Hurdman, Hurdman's Bridge.

2nd do Fletcher Warren, Pembroke.

3rd do Louis Laroche, Montreal, Quebec.

ROADSTER SINGLE HORSE, IN HARNESS (Stallion excluded).

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

1st prize, Wm. Harrison, Ottawa.

2nd do John M. Morgan, Ottawa.

3rd do F. F. Chamberlain, M.D., Morrisburg.

CLASS III.

107 ENTRIES.

CARRIAGE HORSES, TO BE 16 HANDS AND OVER.

JUDGES.—Chas. Pennoyer, Cookshire, Que.; Thos. Gowdy, Guelph; J. Rayside, M.P.P., South Lancaster.

CARRIAGE STALLION, 4 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$40.

Second prize, \$25.

Third prize, \$15.

1st prize, J. J. Anderson, Dominionville.

2nd do John Marshall, Hampton.

3rd do James Irving, Cass Bridge.

CARRIAGE STALLION, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

1st prize, Hugh Marquette, Inkerman.

CARRIAGE STALLION, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$6.

1st prize, Peter Rowe, Jockvale.

2nd do Wm. A. Reburn, St. Annes de Bellevue.

3rd do Robert Stewart, Aylmer.

CARRIAGE YEARLING COLT.

PRIZES OFFERED:

First prize, \$12.

Second prize, \$8.

Third prize, \$4.

1st prize, John McCandlish, Ottawa.

CARRIAGE STALLION, ANY AGE.

PRIZE OFFERED :

Gold Medal.

Thomas Good, Richmond, Ont.

CARRIAGE FILLY OR GELDING, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$16.

Second prize, \$10.

Third prize, \$6.

1st prize, Thomas Good, Richmond.

2nd do John McCandlish, Ottawa.

3rd do E. Develin, Ottawa.

CARRIAGE FILLY OR GELDING, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$7.

Third prize, \$4.

1st prize, William Fenton, Leitrim.

2nd do John McCandlish, Ottawa.

3rd do Geo. Rainboth, Aylmer, Que.

CARRIAGE YEARLING FILLY OR GELDING

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

1st prize, John McCandlish, Ottawa.

CARRIAGE BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

1st prize, John Hay, Lachute, Que.

2nd do Duncan McDougall, Marvelville.

CARRIAGE FOAL OF 1884.

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

1st prize, John Hay, Lachute, Que.

2nd do Duncan McDougall, Marvelville.

AIR MATCHED CARRIAGE HORSES, IN HARNESS (Over 16 hands, Stallions excluded).

PRIZES OFFERED :

First prize, \$40.

Second prize, \$25.

Third prize, \$15.

1st prize, F. Clemow, Ottawa.

2nd do James W. Russell, Ottawa.

3rd do J. A. Mill, Ottawa.

PAIR MATCHED CARRIAGE HORSES (16 hands and under, in harness, Stallions excluded).

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

Third prize, \$10.

1st prize, Robert Hurdman, Hurdman's Bridge.

2nd do J. Forth & Sons, Glen Buell.

3rd do John Nesbitt, Fallowfield.

SINGLE CARRIAGE HORSE, IN HARNESS (Stallion excluded).

PRIZES OFFERED :

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

1st prize, Thomas Carley, Merrickville.

nd do John Johnston, Odessa.

rd do J. A. Mill, Ottawa.

SADDLE HORSE (Not over 16 hands, Stallion excluded.)

PRIZES OFFERED:

First prize, Dominion Silver Medal and \$10.

Second prize, \$12.

Third prize, \$8.

1st prize, James Gordon, Ottawa.

2nd do James A. Leslie, Ottawa.

3rd do D. J. Craig, Bristol, Que.

EXTRAS.

"Menagerie" Section.

PAIR MATCHED FRENCH PONIES.

Dominion Silver Medal.

John Murphy, jr., Richmond Station, Quebec.

CANADIAN PONY.

Highly Commended, D. L. Weamer, Montreal, Que.

CLASS IV.

HORSES FOR AGRICULTURAL PURPOSES (Exclusive of Pure Clydesdales, Percherons and Suffolks).

80 ENTRIES.

JUDGES—Wm. Keefer, Annan; A. McKellar, Ottawa; John Jackson, Grahamsville.

AGRICULTURAL STALLION, 4 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$35.

Second prize, \$25.

Third prize, \$15.

1st prize, Wm. Sadler, Galt, "St. Elmo."

2nd do John L. Patterson, Canton.

3rd do W. L. Hurdman, Hurdman's Bridge.

AGRICULTURAL STALLION, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$10.

1st prize, David MacKay, Carp.

AGRICULTURAL STALLION, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$6.

1st prize, T. A. Stevenson, Wakefield, Quebec.

2nd do T. & A. B. Snider, German Mills.

3rd do Thomas Good, Richmond, Quebec.

AGRICULTURAL YEARLING COLT.

PRIZES OFFERED:

First prize, \$10.

Second prize, \$7.

Third prize, \$4.

1st prize, George Eadie, Manotick.

2nd do W. R. McLatchie, Templeton, Quebec.

3rd do Thomas Graham, Elmside.

AGRICULTURAL STALLION, ANY AGE

PRIZE OFFERED:

Dominion Gold Medal.

William Sadler, Galt, St. Elmo.

AGRICULTURAL FILLY OR GELDING, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$16.

Second prize, \$10.

Third prize, \$6.

1st prize, T. & A. B. Snider, German Mills.
 2nd do Wm. Watts, Merrickville.
 3rd do John Clark, Ottawa.

AGRICULTURAL FILLY OR GELDING, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$4.

1st prize, John Nelson, Mount Sherwood.
 2nd do G. N. Kidd, Carp.
 3rd do John C. Bradley, Hazledean.

AGRICULTURAL YEARLING FILLY OR GELDING.

PRIZES OFFERED :

First prize, \$8.

Second prize, \$6.

Third prize, \$4.

1st prize, John Hay, Lachute, Quebec.

AGRICULTURAL BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

1st prize, John Pagett, Manotick.
 2nd do George Eadie, Manotick.

AGRICULTURAL FOAL OF 1884.

PRIZES OFFERED :

First prize, \$8.

Second prize, \$6.

Third prize, \$4.

1st prize, George Eadie, Manotick.
 2nd do John Pagett, Manotick.

MATCHED FARM TEAM, IN HARNESS (Geldings or Mares, Stallions excluded).

PRIZE OFFERED :

First prize, \$35.

Second prize, \$20.

Third prize, \$10.

1st prize, John C. Bradley, Hazledean.
 2nd do Thomas McKay & Co., Chaudiere, Hull.
 3rd do do do

CLASS V.

64 ENTRIES.

HEAVY DRAUGHT HORSES, IMPORTED OR BRED FROM PURE IMPORTED HEAVY DRAUGHT STOCK ON THE SIDE OF BOTH SIRE AND DAM, INCLUDING CLYDESDALES AND SHIRE BRED HORSES.

JUDGES—James Fisher, Milton ; Thomas Graham, Cavan ; David Peate, Ratho.

HEAVY DRAUGHT STALLION, 4 YEARS OLD AND UPWARDS.

PRIZES OFFERED :

First prize, \$50.

Second prize, \$30.

Third prize, \$20.

1st prize, R. Beith, Bowmanville, "Royal Dan" (imp.) (3144), dark brown ; foaled 1879, bred by D. Black, Devo!, Port Glasgow, Scotland, the property of exhibitor ; sire Sir John of Ghent (1301), dam Nannie (1943), by General Williams II. (2801).
 2nd do Robt. Blair, Pakenham, "Rising Sun," (imp.) [62] foaled May 1880 ; bred by Jas. Drummond, jun., Blacklow, Fifeshire, Scotland, the property of exhibitor ; sire Prince Edward of Wales (1255) dam by Young Lord Haddo (1366).
 3rd do Jeffrey Bros., Whitby, "Lord Dumfries" (imp.) (2247), bright bay, etc. ; foaled 1880 ; bred by Peter McIntyre, Ballinlay, Bute, Scotland, the property of exhibitors ; sire Farmer (286), dam Ballinlay (1572), by Young Sampson (1374).

HEAVY DRAUGHT STALLION, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$30.

Second prize, \$15.

Third prize, \$10.

- 1st prize, R. Beith, Bowmanville, "Comingsby," (imp.) (2034); dark brown; foaled, May, 1881; bred by Messrs. Sheppard, Balg, Kirkcubright; the property of exhibitor; sire, Prince Imperial (1258); dam, Deline II. of Balg (571) by G. G. G. (361).
- 2nd do R. Beith, Bowmanville, "Peer of The Realm" (imp., vol. 7); bay; white feet, etc.; foaled, 1881; bred by John Sleigh, Aberdeenshire; the property of exhibitor; sire, British Empire (1599); dam, Bess (vol. 7) by Old Times (578).
- 3rd do Jeffrey Bros., Whitby, "Ambition" (imp.) (vol. 7); brown; foaled, May, 1881; bred by John C. Ford, Fifeshire; the property of exhibitors; sire, John Derby (1742); dam, Metal (2231) by Daintie Davie (212).

HEAVY DRAUGHT STALLION, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, John Millar, Brougham, "Forester;" (imp.) bred by James Watt, Thulben, Scotland; the property of exhibitor; sire, "Rantie Johnny" (414).
- 2nd do Jeffrey Bros., Whitby, "Fred" (imp.) foaled June 10th, 1882; bay, with white strip on face, and three white feet; bred by R. Jack, Sykehead, Strathaven, Lanarkshire, Scotland; the property of exhibitor; sire, Prince Frederick (1504); dam, Jean of Sykehead (2388), by Briton (2633).
- 3rd do Matthew Carlyle, Dunbar, "Whiterigg" (imp.) [6] (3295); dark bay; foaled May 8, 1882; bred by Wm. Black & Son, Stanrigg, Scotland; the property of the exhibitors; sire, King of the Forest (1170); dam, Tibbie (1016).
- Highly commended, Wm. Eadie, Dicksdale, "C. L. P. H. C.;" (imp.) dark brown; bred by John Houston, Kirkcubright, Scotland; the property of exhibitor; sire, Good Hope; dam, Jean by Young Comet.

HEAVY DRAUGHT YEARLING COLT.

PRIZES OFFERED:

First prize, \$10.

Second prize, \$7.

Third prize, \$4.

- 1st prize, R. Beith, Bowmanville, "Vanguard," (imp.) (vol. 7) bay; foaled June, 1883; bred by John Beckett, Castle Douglas; the property of exhibitor; sire, Young Lord Lyon (994); dam, Hanford Maggie, by Old Times (579).
- 2nd do John Millar, Brougham.
- 3rd do R. Beith, Bowmanville, "True Scotchman;" (imp.) bay; foaled May, 1883, bred by Thomas Hodson; sire, Laird o'Urie (1721); dam, Jessie (776) by Earl Granville (261).

HEAVY DRAUGHT STALLION, ANY AGE.

PRIZE OFFERED:

Dominion Gold Medal.

R. Beith, Bowmanville, "Comingsby" (2034).

HEAVY DRAUGHT FILLY, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$16.

Second prize, \$10.

Third prize, \$6.

- 1st prize, Jeffrey Bros., Whitby, "Martha Jane" (vol. 7); foaled 1881; sire, Waterlee Lyon (2266); dam, Jess of Springside (2818), by Campsie (119).
- 2nd do Sidney Thom, Dunbar, "Flower of the Forest," (imp.) brown; bred by John Wilson, Flatt Largs, Ayrshire, Scotland; the property of exhibitor; sire, King of the Forest (1170); dam, Jean, by Prince Charlie (629).
- 3rd do R. Beith, Bowmanville, "Lily of the Dale," (imp. vol. 4), bright bay; foaled March 28, 1881; bred by James Gray, Stirlingshire, the property of exhibitor; sire, True Blue (1334); dam, Jean (762), by Black Comet (66).

HEAVY DRAUGHT FILLY, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$12.

Second prize, \$8.

Third prize, \$4.

- 1st prize, John Millar, Brougham, "Bonnie Bird;" foaled March 28, 1882; the property of the exhibitor; sire, Boydston Boy (111); dam, Fanny (999), by Pride of Galloway (601).
- 2nd do John Dryden, M.P.P., Brooklin, "Lady Clare," (imp.) bay, with white snip in face; foaled April 13, 1882; bred by A. Cruickshank, Sittyton, the property of exhibitor; sire, Lord II. (1209); dam, Juliet (1161), by Glasgow Laddie (351).

HEAVY DRAUGHT YEARLING FILLY.

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

- 1st prize, R. Beith, Bowmanville, "Maggie Lawrence" bay; foaled May, 1883; bred by Thos. Hodgson, Carlisle; the property of exhibitor; sire, Laird O'Uree (1721); dam, Bell (774), by Young Sir Walter Scott (1897).
- 2nd do Thomas Carlyle, Dunbar, "Bella 2nd," (imp. vol. 7), brown; foaled May 3, 1883, bred by Wm. Young, Lanarkshire, Scotland; the property of exhibitor; sire, Baron Renfrew (37); dam, Bella of Herdhill (3139), by Czar (210).

HEAVY DRAUGHT BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Wm. Eadie Dickinson, "Jess" (Imp. vol. 6) dark brown; foaled August, 1879, bred by John Paton, Renfrew, the property of the exhibitor; sire, Baron Renfrew (1579); dam, Lily of Renfrew (2804), by Baronet (28).

HEAVY DRAUGHT FOAL OF 1884.

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

- 1st prize, Wm. Eadie Dickinson; (imp.)

SPAN OF HEAVY DRAUGHT HORSES, IN HARNESS. (Stallion excluded).

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Wm. Boyd, Toronto, "Lily" [39] "Floss" [40].
- 2nd do Jeffrey Bros., Whitby.
- 3rd do Thomas McKay & Co., Chaudiere, Hull, Que.

CLASS VI.

11 ENTRIES.

HEAVY DRAUGHT HORSES. Grade (Canadian bred).

JUDGES.—James Fisher, Milton; Thomas Graham, Cavan; Daniel Peate, Ratho.

HEAVY DRAUGHT BROOD MARE, WITH FOAL BY HER SIDE.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$10.

Third prize, \$5.

- 1st prize, Robert Cowan, Leitrim.

HEAVY DRAUGHT FILLY, 3 YEARS OLD. Grade (Canadian bred).

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize, John Nelson, Mount Sherwood.
- 2nd do Wm. Watts, Merrickville.

HEAVY DRAUGHT FILLY, 2 YEARS OLD. Grade (Canadian bred).

PRIZES OFFERED :

First prize, \$10.

Second prize, \$6.

Third prize, \$4.

- 1st prize, G. N. Kidd, Carp.

HEAVY DRAUGHT FOAL OF 1884. Grade (Canadian bred).

PRIZES OFFERED :

First prize, \$8.

Second prize, \$6.

Third prize, \$4.

- 1st prize, Robert Cowan, Leitrim.

CLASS VII.

SUFFOLKS HEAVY DRAUGHT HORSES IMPORTED OR BRED FROM PURE IMPORTED HEAVY DRAUGHT STOCK
ON THE SIDE OF BOTH SIRE AND DAM.

4 ENTRIES.

JUDGES. Jas. Fisher, Milton; Thos. Graham, Cayah; Daniel Peate, Ratho.

SUFFOLK STALLION, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$20. Second prize, \$10.

1st prize, John Carson, Kingston.

2nd do Wm Saffet, Galt, "Young Hero."

SUFFOLK STALLION, ANY AGE.

PRIZE OFFERED:

Dominion Silver Medal.

John Carson, Kingston.

CLASS VIII.

PERCHERONS, HEAVY DRAUGHT HORSES, IMPORTED OR BRED FROM PURE IMPORTED DRAUGHT STOCK ON
THE SIDE OF BOTH SIRE AND DAM.

24 ENTRIES.

JUDGES. Wm. Keizer, Annap; A. McKellar, Ottawa; John Jackson, Grahamsville.

PERCHERON STALLION, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$30. Second prize, \$20. Third prize, \$10.

1st prize, T. & A. B. Snider, German Mills; "Bardine" 754 (998) dapple grey, foaled, 1875, imported 1880.
Got by Superior 750, 1874, dam Emily by Victor Chastin 749.

2nd do W. & R. Bell, Bell's Corners, "Parilion" (2300).

3rd do T. & A. B. Snider, German Mills; "Theodore" 1280 (2372), foaled 1878, imported 1883, got by
Utopia 7310 (780), dam La Noir, by Black Prince 752 (990).

PERCHERON STALLION, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$10. Second prize, \$8.

1st prize, T. & A. B. Snider, German Mills.

2nd do T. & A. B. Snider, do

PERCHERON STALLION, ANY AGE.

PRIZES OFFERED:

Dominion Silver Medal.

T. & A. B. Snider, German Mills, Bardine, 7544 (998).

CATTLE.

CLASS IX.

DURHAMS, —160 ENTRIES.

JUDGES.—Gideon Harkness, Annan; Geo. Mustard, Uxbridge; J. Laing Cowan, Galt.

DURHAM BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$40. Second prize, \$35. Third prize, \$15.

1st prize, Green Bros., Innerkip, "Earl of Marr" (imp.); rich roan, calved May 2nd, 1881, bred by W. S. Marr, Tarves, Scotland; got by Bentick (42787), dam Emma II. (vol. 23, p. 555 E. H. B.) by Golden Eagle (26267).

2nd do Thomas Clark, Ottawa, "Fawsley Chief" [8565]; roan, calved April 15th, 1880, bred by exhibitor; got by Ottawa Chief [5833], dam Kate Darling (vol. 5, p. 355) by Lord Dufferin [3513].

3rd do Hamilton Bros., Hawkesbury, "Baron Beech" [6601], red and white, calved May 4th, 1878, bred by Messrs H. & I. Groff, Elmira; got by Young Aberdeen [4512], dam Lady Goldwin (vol. 3, p. 548), by Prince of Rockwood [2602].

DURHAM BULL 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$40.

Second prize, \$25.

Third prize, \$15.

- 1st prize, T. & A. B. Snider, German Mills, "Abbotsturn" roan, calved May 7th, 1882, bred by A. Cruickshank, Sittyton, Scotland; got by Roan Gauntlet (35284), dam Amaranth by Barmpton (37763).
- 2nd do Jno. Dryden, Brooklin, "Lord Glamis" (imp.) (48192); red, calved Sept. 20th, 1881; bred by A. Cruickshank, Sittyton, Scotland; got by Barmpton (37763); dam, Garnish by Royal Duke of Gloster (33864).
- 3rd do Grant & Campbell, Woodville, "MacDuff" [10220]; red, calved Sept. 23rd, 1881; bred by J. & W. Watt, Salem; got by Barmpton Hero [6595]; dam Princess Macula 2nd, by Oxford Prince [1925].

DURHAM YEARLING BULL.

PRIZES OFFERED :

First prize, \$40.

Second prize, \$25.

Third prize, \$15.

- 1st prize, Capt. Geo. Bunbury, Oakville, "Ontario King"; red, calved, Oct. 13th, 1882; bred by J. Dryden, M.P.P., Brooklin; got by Baron Surmise (imp.) (45933); dam Belle by Royal Barmpton [3969] (32996).
- 2nd do T. & A. B. Snider, German Mills, "Captain"; red, calved Jan. 26th, 1883; bred by J. Gardhouse & Sons, Malton; got by Captain Cook; dam Fairy Circle by Count Grindelwald.
- 3rd do G. N. Kidd, Carp, "Kossuth"; roan, calved Jan. 7th, 1883; bred by J. & W. Watt, Salem; got by Barmpton Hero [6595]; dam, Rose 2nd by Baron Booth of Killerby [4271].

DURHAM BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15.

Third prize, \$10.

- 1st prize, John Dryden, Brooklin, "Soldier Boy," red and white, calved Dec. 24th, 1883; bred by exhibitor; got by Lord Glamis (48192), dam Sunbeam, by Royal Violet (40649).
- 2nd do Jas. Hunter, Alma, "Victor," red, calved Jan. 5th, 1884; bred by exhibitor; got by Socrates [10520] (45640); dam Queen of the May IV. by Knight of Warlabby [1634] (29014).
- 3rd do John Dryden, Brooklin, "Chieftain," red and white, calved March 6th, 1884; bred by exhibitor; got by Lord Glamis (48192); dam Cornflower, by Perfection (37185).

DURHAM BULL, ANY AGE.

PRIZE OFFERED :

Dominion Gold Medal.

Green Bros., Innerkip, "Earl of Marr."

DURHAM COW.

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

Third prize, \$15.

- 1st prize, T. & A. B. Snider, German Mills, "Rose of Strathallan II.," roan, calved Jan. 7th, 1880, bred by John Miller, Brougham; got by Blooming Mayflower [8153], dam White Rose of Strathallan, by Filligree Duke [5244].
- 2nd do John Dryden, Brooklin, "Sunbeam" (imp.); roan, calved Nov. 22nd, 1878, bred by A. Cruickshank, Aberdeenshire, Scotland, got by Royal Violet (40649), dam Songstress by Lord Lancaster (26666).
- 3rd do Thomas Clarke, Ottawa, "Kate Darling," (vol. 5, p. 355); red and white, bred by Hon. James Skead, Ottawa; got by Lord Dufferin [3513], dam Marigold V. (imp.) by Young Pacha (20457).

DURHAM COW, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

Third prize, \$15.

- 1st prize, T. & A. B. Snider, German Mills, "Gean Blossom" (imp.); red and little white, calved April 3rd, 1881, bred by A. Cruickshank, Sittyton, Scotland; got by Perfection (37185), dam Garland, by Scotland's Pride (25100).
- 2nd do Green Bros., Innerkip, "Eliza IX." (imp.); light roan, calved December 24th, 1880; bred by Wm. Dobbie, Collynie, Scotland; got by Border Chief (37874), dam Eliza VII., by Forah III. (26185).
- 3rd do Green Bros., Innerkip, "Vain Maid," (imp.), dark roan, calved Feb. 15th, 1881, got by Edgar (41501), dam Vanity by Earl of Granville (28491).

DURHAM HEIFER, 2 YEARS OLD

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15

Third prize, \$10

- 1st prize, T. & A. B. Snider, German Mills, "Matchless 29th," red and a little white, calved January 6th, 1882; bred by exhibitors, got by Barmpton Hero [6595]; dam Matchless of Elmhurst, by Duke of Hamilton.
- 2nd do James Hunter, Alma, "Rose of Killerby 2nd," roan, calved July 22nd, 1882; bred by exhibitor, got by Socrates [10520] (45640), dam Rose of Killerby by Knight of Warlabby [1634] (29014).
- 3rd do Green Bros., Innerkip, "Proud Duchess" (imp.), red, calved December 1st, 1881, got by Morman (45272), dam Venus 2nd, by British Champion 36273).

DURHAM YOUNG HEIFERS.

PRIZES OFFERED :

First prize, \$16.

Second prize, \$12.

Third prize, \$8.

1st prize, Jas. Hunter, Alma, "Queen of the May 7th," red, calved October 18th, 1883; bred by exhibitor; got by Socrates [10420], 1860; dam, Queen of the May 6th, by Knight of Warlike [1634] 1864.

2nd do Capt. Geo. Bunbury, Oakville, "Hesper," red, calved November 30th, 1882; bred by J. & W. Watt, Salem; got by Bampton Hero [6595]; dam, Annie Laurie by His Royal Highness.

3rd do John Dryden, Brooklin, "Coquette," red and white, calved March 14th, 1883; bred by exhibitor; got by Balm Springs Duke; dam, Concord by Portion [5748].

DURHAM HEIFER CATTLE, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

1st prize, Grant & Campbell, Woodville, "Imogene IV." (vol. 9), red, calved December 16th, 1883; bred by exhibitors; got by McDuff [10200]; dam, Imogene, by General Prim [3257] [31240].

2nd do James Hunter, Alma, "Gaiety III." roan, calved September 10th, 1883; bred by exhibitor; got by Socrates [10420], 1860; dam, Melba Heifer II, by Knight of Warlike [1634] [29014].

3rd do Grant & Campbell, Woodville, "Imogene V." (vol. 9), red, calved November 1st, 1883; bred by exhibitors; got by McDuff [10200], dam Evening (imp.) by Rapid Rhone (35205).

DURHAM FEMALE, ANY AGE.

PRIZE OFFERED :

Dominion Silver Medal.

T. & A. B. Snider, German Mills, Gean Blossom (imp.).

SPECIAL.

FOUR DURHAM CALVES, UNDER 1 YEAR OLD (Bred and owned by Exhibitor.)

PRIZE OFFERED :

\$25.00.

Grant & Campbell, Woodville.

SPECIAL.

FOR BEST HERD DURHAM CATTLE (Consisting of One Bull and Four Males.)

Offered by the Thorley Horse and Cattle Food Co., of Hamilton, without conditions.

PRIZE OFFERED :

\$50.00.

T. & A. B. Snider, German Mills.

SPECIAL.

BEST HERD OF ONE BULL AND THREE FEMALES, OVER 1 YEAR AND UNDER 3 YEARS (owned by Exhibitor.)

Offered by the Empire Horse and Cattle Food Co., of Mitchell, Ont., manufacturers of Empire Horse and Cattle Food, the only original Thorley Food manufactured in Canada. No other maker's condiment to be used in fitting animals for this prize.

PRIZES OFFERED :

First prize, \$40.

Second prize, \$20.

1st prize, John Dryden, Brooklin.

2nd do T. & A. B. Snider, German Mills.

CLASS X.

50 ENTRIES.

HEREFORDS.

JUDGES.—James L. Peers, Woodstock; Wm. Clayzie, Belleville; G. N. Gamsby, Cookshire, Que.

HEREFORD BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED :

First prize, \$35.

Second prize, \$25.

Third prize, \$10.

1st prize, F. A. Fleming, Weston, Concord (imp.) [8]; calved 18th June, 1880; bred by T. Middleton, Shropshire, England, got by Captain (5238), dam Violet 4th, by Young Sir Thomas (3624).

2nd do F. W. Stone, Guelph, "Duke of Manchester" (imp.) (5308), calved January 9th, 1877; bred by Her Majesty the Queen, Windsor Castle, England, got by Duke of Connaught (4528); dam Heather Bell, by Prince George Frederick (4651).

3rd do F. W. Stone, Guelph, "Quebec" (6125), calved May 10th, 1879; bred by exhibitor, got by Marquis of Waterford (5454); dam Spot 7th, by Sir George (3439).

HEREFORD BULL, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

Third prize, \$10.

- 1st prize, F. W. Stone, Guelph, "Victor 7th" (7333); calved September 8th, 1881, bred by exhibitor, got by Quebec (6125); dam Vesta 9th, by Governor 4th (4620).

HEREFORD BULL, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$8.

- 1st prize, Hon. J. H. Pope, Cookshire, Que., "Regal" (imp.); calved January 23rd, 1883, bred by W. Ludge, England, got by Auctioneer (5194), dam Belledonna, by Orleans (2661).
 2nd do F. A. Fleming, Weston, "Earl Downton" (imp.) [173]; calved July 4th, 1883; bred by F. Fenn, Ludlow, England, got by Auctioneer (5194); dam Bright-Lady 12th, by Archduke (4312).
 3rd do F. A. Fleming, Weston, "Duke of Hereford" (imp.) [172]; calved July 29th, 1883; bred by T. Fenn, Ludlow, England; got by Auctioneer (5194); dam Maid of the Fenn, by Romulus (5542).

HEREFORD BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize, L. G. Drew, Oshawa, "Bonnie Boy," calved January 13th, 1884, bred by Messrs. Boyd & Co., Bobcaygeon, the property of exhibitor; got by Bonnie Lad 2nd (5764), dam Peeress 3rd by Benjamin 12th.
 2nd do L. G. Drew, Oshawa, "Hopeful," calved December 2nd, 1883, bred by Ontario Experimental Farm, Guelph, the property of exhibitor; got by Hopedale (7021), dam Princess Mary 2nd, by Prince George Frederick (4051).
 3rd do F. W. Stone, Guelph, (recorded E. H. B., vol. 15); bred by and the property of exhibitor; got by Duke of Manchester 4470 (5308), dam Waxy (imp.) 6321, by The Earl 2nd, 4633 (5048).

HEREFORD BULL, ANY AGE.

PRIZES OFFERED :

Dominion Silver Medal.

- F. W. Stone, Guelph, "Victor 7th" (7333); calved September 8th, 1881; bred by and the property of exhibitor; got by Quebec (6125), dam Vesta 9th by Governor 4th (imp.) 1293 (4620).

HEREFORD COW.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Hon. J. H. Pope, Cookshire, Quebec, "Mermaid 2nd"; calved March 19th, 1881; bred by S. Robinson; got by Regulus (4076); dam Mermaid by Luxury (2334).
 2nd do F. W. Stone, Guelph, "Peach 7th" (imp.) (vol. 12, p. 299); calved 1876; bred by T. Williams, Hereford, Esq.; got by The Grave (5050); dam Cowslip by Chattannoga (3013).
 3rd do Hon. J. H. Pope, Cookshire, Quebec, "Elsie"; calved June 9th, 1880; bred by W. Ludge; got by Downton Grand Duke (5878); dam Mermaid 2nd by Regulus (4076).

HEREFORD COW, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, F. W. Stone, Guelph, "Graceful 26th" (vol. 12, p. 335), calved Oct. 11th, 1880; bred by exhibitor; got by Duke of Manchester (5308); dam Graceful 15th, by Governor 4th (4620).
 2nd do F. W. Stone, Guelph, "Graceful 27th" (vol. 12, p. 335) calved Nov. 3rd, 1880; bred by exhibitor; got by Rambler 4th (6131); dam Graceful 9th, by Rambler 4th (6131).

HEREFORD HEIFER, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

- 1st prize, Hon. J. H. Pope, Cookshire, Quebec, "Downton Olive," calved April 6th, 1882; bred by F. Fenn, Ludlow; got by Downton Boy (5877); dam Lady Olive, by My Lord (2607).
 2nd do F. W. Stone, Guelph, "Graceful 30th" (vol. 13, p. 391) calved Sept. 1st, 1881; bred by exhibitor; got by Quebec (6452); dam Graceful 15th, by Governor 4th (4620).
 3rd do F. A. Fleming, Weston, "Picture" (imp.) [177], calved May 22nd, 1882; bred by Thos Pearce, Herefordshire, Eng.; got by Experiment (7605); dam Peeress 2nd, by Pearl Diver (6098).

HEREFORD HEIFER, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

1st prize, Hon. J. H. Pope, Cookshire, Quebec, "Downton Hop-Bloom" (imp.); calved April 6th, 1883, bred by T. Fenn, Ludlow, Eng.; got by Auctioneer 5194, dam Hop Bloom II., by Harewood 53551.

2nd do F. W. Stone, Guelph, "Cherry XI." vol. 14, p. 599.

3rd do F. A. Fleming, Weston, "Lady Fern" (imp.) (175); calved April 13th, 1883, bred by T. Fenn, Ludlow, Eng.; got by Downton Boy (5877), dam Longhorns by Longsides (5434).

HEREFORD HEIFER CATTLE, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

1st prize, R. J. Mackie, Oshawa, "Salut," calved Sept. 17th, 1883; bred by exhibitor, got by Duke of Argyle (7562) dam Victoria 2nd by Hero.

2nd do F. W. Stone, Guelph, "Graceful XXXVI."

3rd do F. W. Stone, Guelph, "Cherry XIII." (vol. 16).

HERD OF HEREFORDS, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZES OFFERED :

Dominion Gold Medal.

Hon. J. H. Pope, Cookshire, Quebec.

CLASS XI.

42 ENTRIES.

DEVONS.

JUDGES. —R. Currie, Niagara; James Dempster, Gananoque; Alex. Fraser, Tayside.

DEVON BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

1st prize, Wm. Courtice, Courtice, "John A." [842]; calved March, 1880, bred by exhibitor; got by Jack's Alive [749]; dam, Plum [792]; by King William [417].

DEVON BULL, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15.

1st prize, Geo. Rudd, Guelph, "Marquis II." [871]; calved May 5th, 1882; bred by Ontario Experimental Farm, Guelph, got by The Marquis [773], dam Nellie (imp.) [872], by Napier (888).

2nd do Geo. Rudd, Guelph, "Marquis 3rd" [880]; calved March 22nd, 1883, bred by Messrs. S. & M. Rudd, Guelph, the property of exhibitor; got by The Marquis [773]; dam Red Rose [777] Hartland [363].

DEVON BULL, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$15.

1st prize, Wm. Courtice, Courtice, "2nd General Wyndham;" calved April 19th, 1883, bred by Ontario Experimental Farm, Guelph, got by General Wyndham [802], dam Nellie by Napier [888].

2nd do Geo. Rudd, Guelph, "The Marquis 4th" [889]; calved March 22nd, 1883; bred by Messrs. S. & M. Rudd, Guelph; got by The Marquis [773]; dam, Red Rose [777] by Hartland [363].

DEVON BULL CATTLE, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

1st prize, Wm. Courtice, Courtice, "Jumbo" [918]; calved January 14th, 1884, bred by exhibitor; got by Curly Tom [886], dam Plum [792], by King William [417].

2nd do Geo. Rudd, Guelph, "Napoleon II." calved May 2nd, 1884, bred by exhibitor; got by Napoleon [868], dam Golden Locks, by Profusion.

DEVON BULL, ANY AGE.

PRIZES OFFERED :

Dominion Silver Medal.

George Rudd, Guelph, Marquis II [871].

DEVON-COW.

PRIZES OFFERED :

First prize, \$20. Second prize, \$15.

- 1st prize, Geo. Rudd, Guelph, "Blossom" [751]; calved Sept. 15th, 1877; bred by exhibitor; got by Dandy [670], dam Miss Ann [582].
2nd do Wm. Courtice, Courtice, "Plumb" [792]; calved March 3rd, 1876; bred by exhibitor, got by King Wilham [417], dam Queen H. (1788), by Gladstone [391].

DEVON COW, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$20. Second prize, \$15. Third prize, \$10.

- 1st prize, Geo. Rudd, Guelph, "Rose" [849]; calved May 22nd, 1881; bred by John Hawes, Marden, got by King of the Ocean [727], dam Blue Bell [343], by Samson VI. [310].
2nd do Geo. Whitfield, Rougemont, Quebec, "Pretty Face Rougemont," calved July 23rd, 1881; bred by exhibitor, sire Pretty Face's Duke (1627), dam Venus (3993).

DEVON HEIFER, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$15. Second prize, \$10.

- 1st prize, Geo. Rudd, Guelph, "Daisy" [848]; calved June 1st, 1882, bred by J. Hawes, Marden; got by General Wyndham [802], dam Blue Bell [343], by Samson VI. [310].
2nd do Geo. Whitfield, Rougemont, Quebec, "Pansy."

DEVON HEIFER, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$12. Second prize, \$8.

- 1st prize, Geo. Rudd, Guelph, "Snowdrop" [883]; calved Dec. 15th, 1882, bred by J. Hawes & Sons, Marden; got by Marquis [773], dam Thrifty [608] by Monarch [604].
2nd do Geo. Rudd, Guelph, "Maid of Walpole" [900]; calved April 5th, 1883, bred by exhibitor; got by General Wyndham [802], dam Miss Butterfly [797], by Prince Albert Victor.

DEVON HEIFER CALF, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$10. Second prize, \$5.

- 1st prize, Geo. Rudd, Guelph, "Dinah"; calved March 28th, 1884, bred by the exhibitor; got by Marquis II. [871], dam Butterfly, by Prince Albert Victor.
2nd do Geo. Rudd, Guelph, "Red Rose II.;" calved March 12th, 1884, bred by exhibitor; got by Napoleon [868], dam Red Rose, by Hartland [363].

HERD OF DEVONS, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZE OFFERED :

Dominion Gold Medal.

Geo. Rudd, Guelph.

CLASSES XII.

106 ENTRIES.

AYRESHIRE.

JUDGES.—John Brackenridge, Westwood; John Crawford, Malvern; Benj. Briscoe, Napanee.

AYRESHIRE BULL, 3 YEARS AND UPWARDS.

PRIZES OFFERED :

First prize, \$35. Second prize, \$25. Third prize, \$10.

- 1st prize, T. G. Nankin, Merivale, "Sultan," [1288]; red and little white; calved Aug. 26th, 1879, bred by W. K. Secord, Winona; got by Mars 1st, [803]; dam Lucy [905], by Wilson, [438].
2nd do John Hay, Lachute, Q., "Young Barleycorn," 1606, red and white; calved July 4th, 1877; bred by G. and R. Mina, St. Laurent, Q., got by Barleycorn, dam Rosalie.
3rd do T. Guy & Son, Oshawa, "William Wallace," [1247]; dark red and white; calved Sept. 10th, 1879, bred by Jardine & Sons, Saltfleet; got by Mars 1st, [803], 2077; dam Heather Bell, [678], by Wilson, [438].

AYRSHIRE BULL, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$50.

Second prize, \$20.

Third prize, \$10.

- 1st prize, T. Guy & Son, Oshawa, "Satellite," [1443], white marked with brown, bred by exhibitors; got by William Wallace [1247], dam Snowflake [1373], by Warrion [780].
 2nd do T. Guy & Son, Oshawa, "Gambler," [1504], red and white; calved March 10th, 1882, bred by exhibitors; got by William Wallace [1247], dam Cornuth [1377], by Marquis of Lorne [781].
 3rd do Joseph Yuill, Carleton Place, "Ramsay Lad," [1489], red and white; calved May 4th, 1882, bred by L. Nasrath, Almonte; got by Carrick Lad [1286], dam Violet [660], by Sir James [225].

AYRSHIRE BULL, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$8.

- 1st prize, William Radden, Plantagenet, "Royal Laddie," red and white, calved Sept. 12th, 1882, bred by exhibitor; got by Amos by Colonel.
 2nd do T. Guy & Son, Oshawa, "Lord Lansdowne" [1557]; dark brown and a little white, calved Sept. 16th, 1882, bred by exhibitors; got by William Wallace [1247], dam Model [1179], by Bismarck [500].
 3rd do James Drummond, Cote la Visitation, Q., "Ben," red and white spots; calved April 20th, 1883, bred by exhibitor; got by Lorne, dam Fannie, by Duke of Athol.

AYRSHIRE BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

Third prize, \$8.

- 1st prize, Jas. Drummond, Cote la Visitation, Q., "Jock [1609];" spotted white and red, calved Oct. 14th, 1884, bred by exhibitor; got by Promotion [1608], dam Dove [1820], by Duke of Athol [1607].
 2nd do T. Guy & Son, Oshawa.
 3rd do T. G. Nankin, Merivale, "Earl of Shade Park" [1548]; red and little white, calved April 28th, 1884, bred by Jos. Yuill, Carleton Place; got by Sultan [1288], dam Primrose [640], by Prince of Wales [396].

AYRSHIRE BULL, ANY AGE.

PRIZE OFFERED:

Dominion Silver Medal.

T. G. Nankin, Merivale, "Sultan" [1288].

AYRSHIRE COW.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, T. G. Nankin, Merivale, "Primrose" [640]; brown and white spots; calved May 17th, 1875; bred by Joseph Yuill, Carleton Place; got by Prince of Wales [366], dam Marigold [362], by Duncan [370].
 2nd do T. Guy & Son, Oshawa, "Oshawa Lass;" white and red; calved April, 1873; bred by exhibitors; got by Burns [513], dam Ella 2nd [372], by Prince of Wales [17] 305.
 3rd do Jas. Drummond, Cote Visitation, Q., "Bud;" brown and white; calved July 6th, 1878; bred by exhibitor; got by Nelson; dam Kitty.

AYRSHIRE COW, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, T. Guy & Son, Oshawa, "Sunbeam" [1728]; red and white; calved April 6th, 1881; bred by exhibitors; got by Prince Charlie [1273], dam Oshawa Belle [777], by Bismarck [500].
 2nd do Guy & Son, Oshawa, "Red Rose" [1727]; red and little white; calved July 10th, 1881; bred by exhibitors; got by William Wallace [1247], dam Roseland [1379], by Indian Chief.
 3rd do Joseph Yuill, Carleton Place, "Mopse Bell;" red and white; calved April 15th, 1881; bred by exhibitor; got by Carrick Lad [1286], dam Nellie Gray [934], by Ramsay Chief [526].

AYRSHIRE HEIFER, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

- 1st prize, T. Guy & Son, Oshawa, "Lilly Dale."
 2nd do T. G. Nankin, Merivale, "Lady Bell;" red and a little white, calved Sept. 6th, 1881; got by William Wallace [1902], dam Oshawa Belle [777], by Bismarck [500].
 3rd do Jas. Drummond, Cote Visitation, "Modest;" red and white, calved April 15th, 1882, bred by exhibitor; got by Lorne, dam Mary.

AYRSHIRE HEIFER, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize, W. M. & J. C. Smith, Fairfield Plains, "Empress" [1550]; red and white; bred by T. Guy & Son, Oshawa, the property of exhibitors; got by William Wallace [1247], dam Queen [1509]. by Oarsman [972], 1573.
- 2nd do T. Guy & Son, Oshawa, "Gurta 5th" [1726]; red and a little white, calved Sept. 11th, 1879, bred by T. Guy & Son, Oshawa; got by William Wallace [1247], dam Gurta IV [1181], by Cyrus [600].
- 3rd do Joseph Yuill, Carleton Place.

AYRSHIRE HEIFER CALF, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

- 1st prize, Joseph Yuill, Carleton Place, "Lizzie Callander" [1793]; red and white, calved January 17th, 1884, bred by exhibitor, got by Sultan [1288], dam Morning Glory [1277], by Carrick Lad [1286].
- 2nd do T. Guy & Son, Oshawa, "Dolly" [1725]; brown and white spotted, calved March 15th, 1884, bred by exhibitors; got by Sir Garnett [1408], dam White Tulip [1511], by Canada [919].
- 3rd do William Rodden, Plantagenet, "Young Jess;" calved September 10th, 1883.

AYRSHIRE FEMALE, ANY AGE.

PRIZES OFFERED :

Dominion Silver Medal.

T. Guy & Son, Oshawa, "Sunbeam" [1728].

HERD OF AYRSHIRES, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZES OFFERED :

Dominion Gold Medal.

T. Guy & Son, Oshawa.

CLASS XIII.

34 ENTRIES.

GALLOWAYS.

JUDGES.—William Rodden, Plantagenet; Robert E. Marr, Simcoe; William Eadie, Russell.

GALLOWAY BULL, 3 YEARS AND UPWARDS.

PRIZES OFFERED :

First prize, \$35.

Second prize, \$25.

Third prize, \$10.

- 1st prize, Thomas McCrae, Guelph, "MacLeod 2nd, of Drumlanrig," (imp.), [553], 1676; calved March 5th, 1881, bred by Duke of Buccleuch; sire Stanley of Drumlanrig (2622), by Black Prince of Drumlanrig, (546).
- 2nd do Thomas McCrae, Guelph, "Elrig," (imp.), [551] (2105); calved April 10th, 1881, bred by William Routledge, Port William; sire The Baron of Drumlanrig, (1158), dam Maggie 2nd of Elrig (3030), by Scottish Borderer (669).

GALLOWAY BULL, 2 YEARS.

PRIZES OFFERED :

First prize, \$30.

Second prize, \$20.

Third prize, \$10.

1st prize, Thomas McCrae, Guelph.

GALLOWAY BULL, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$8.

- 1st prize, Thomas McCrae, Guelph, "Hawarden," (imp.), [668]; calved January 12th, 1883, bred by Jas. Cunningham, Tarbreach; sire Harden (1101), dam Lucretia [569], by Scottish Borderer [669].
- 2nd do Thomas McCrae, Guelph, "Candahar," [729]; calved November 24th, 1883, bred by exhibitor; sire Elrig, (imp.), [551], dam Careful (imp.) [5559], (4421), by Forest King 2nd, (1153).

GALLOWAY BULL CATTLE, UNDER 1 YEAR.

PRIZES OFFERED:

First Prize, \$15.

Second Prize, \$10.

Third Prize, \$5.

- 1st prize, Thomas McCrae, Guelph, "Kirkcubright," [732]; calved January 17th, 1881; bred by exhibitor; sire (imp.) MacLeod II. of Drumlanrig [553] (1676), dam Meg of Congeith [574] (3789) by Lofty (1085).
- 2nd do Thomas McCrae, Guelph, "Sir Cedric," [543]; calved February 28th, 1881; bred by exhibitor; sire (imp.) MacLeod II. of Drumlanrig [553] (1676), dam Coila [562] (4414), by Mulock Bob II. (1851).
- 3rd do Thomas McCrae, Guelph, "Borderer," [728]; calved January 11th, 1881; bred by exhibitor; sire (imp.) MacLeod II. of Drumlanrig [553] (1676), dam Lucetta [569] (3441), by Scottish Borderer [669].

GALLOWAY PULL, ANY AGE.

PRIZE OFFERED:

Dominion Silver Medal.

Thomas McCrae, Guelph, "MacLeod II. of Drumlanrig" [553] (1676).

GALLOWAY COW.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Thomas McCrae, Guelph, "Maggie II. of Killimungan" [571] (3877); calved January 2nd, 1878; bred by Joseph Neilson, Dalbeattie; sire Scottish Chief (1040), dam Maggie of Killimungan (2745), by Marksman III. (1245).
- 2nd do Thomas McCrae, Guelph, "Lucetta," [569] (3441); calved March, 1878; bred by Earl of Galloway; sire Scottish Borderer [669].
- 3rd do Thomas McCrae, Guelph, "Beauty II. of Troquhain," calved February 15th, 1878; bred by M. & J. S. Wilson, New Galloway; sire Watty (1072), dam Beauty Troquhain (2806), by Jugurtha.

GALLOWAY COW, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Wm. McCrae, Mountsberg, "Lucetta II." [570]; calved January, 1881; bred by James Cunningham, Tarbreoch; sire Knowsley (1279); dam Lucetta (3441), by Scottish Borderer (669).
- 2nd do Thomas McCrae, Guelph, "Nancy Lee 2nd," calved February 25th, 1881; bred by Thomas Biggar & Sons, sire Earl of Nithsdale (1035); dam Nancy of Kewcklay (2874), by Neil Gow (1138).
- 3rd do Thomas McCrae, Guelph, "Nancy 2nd of Balgray" [578] (4085); calved March 24th, 1881; bred by exhibitor; sire Older Times (1369); dam Nancy of Oakbank (2677), by Forest King (553).

GALLOWAY HEIFER, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

- 1st prize, Thomas McCrae, Guelph, "Cherry Blossom," [602] (4358); calved 1882; bred by R. Wallace, Kirkcudbright; sire Scotia of Tarbreoch [594]; dam Cherry of Hensol [603] (3554), by Major of Hensol (1239).
- 2nd do Thomas McCrae, Guelph, "Lady Geills" [568]; calved October 6th, 1882; bred by Thomas Fisher, Glenluce; sire Islesman (1590); dam Belted Lass [657], by Craiguarget [611].

GALLOWAY HEIFER, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$15.

Second Prize, \$10.

Third prize, \$5.

- 1st prize, Thomas McCrae, Guelph, "Duchess," calved February 6th, 1883; bred by exhibitor; sire Bob of Congrith (1719), dam Maggie II. of Killimingen [571], by Scottish Chief (1040).
- 2nd do Thomas McCrae, Guelph, "Maggie Lauder" [692], calved November 30th, 1882; bred by exhibitor; sire Bob of Congeith (1719), dam Meg of Congeith [574], by Lofty (1085).
- 3rd do Thomas McCrae, Guelph, "Fairy Dell" [690]; calved January 29th, 1883; bred by exhibitor; sire MacLeod of Tarbreoch (1471), dam Nellie of Cornwall (3885), by Dominic Sampson (1149).

GALLOWAY HEIFER CALF, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

1st prize, Thomas McCrae, Guelph, "Oakshade" [784]; calved 1 October 30th, 1883; bred by exhibitor; sire MacLeod II. of Drumlanrig [553], dam Nancy II. of Balgray [578], by Olden Times (1339).

2nd do Thomas McCrae, Guelph, "Lily III." [782]; calved February 5th, 1884; bred by exhibitor; sire MacLeod II. of Drumlanrig [553], dam Nancy Lee II. [579], by Earl of Nithsdale (1035).

3rd do Thomas McCrae, Guelph, "Nina" [783]; calved November 3rd, 1883; bred by exhibitor; sire Lockiel [591], dam Nettie [610], by Maori Chief [592].

GALLOWAY FEMALE, ANY AGE.

PRIZES OFFERED:

Dominion Silver Medal.

Thomas McCrae, Guelph, "Lucetta" [569] (3441).

HERD OF GALLOWAYS, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZE OFFERED:

Silver Medal.

Thomas McCrae, Guelph, McCleod 2nd of Drumlanrig [553] (1676), Lucetta [569] (3441), Maggie 2nd of Killimingen [571] (3877), Nancy Lee 2nd [579] (4186), Beauty 2nd of Troquain [556] (3817) of Cherry Blossom [602] (4358).

CLASS XIV.

ANGUS OR POLLED ABERDEENS.

43 ENTRIES.

JUDGES.—Wm. Rodden, Plantagenet; Robert E. Marr, Simcoe; Wm. Eadie, Russell.

ANGUS OR POLLED ABERDEEN BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$35.

Second prize, \$25.

Third prize, \$10.

1st prize, Mossom, Boyd & Co., Bobcaygeon, "Chivalry."

2nd do Hon. J. H. Pope, Cookshire, Que., "Proud Viscount" (1264); calved January 1st, 1879; bred by J. Hannan, Scotland; got by Young Viscount (736), dam Lillias of Tillyfour (1795), by Black Prince of Wester Fowls (619).

ANGUS OR POLLED ABERDEEN BULL, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$30.

Second prize, \$20.

Third prize, \$10.

1st prize, Mossom, Boyd & Co., Bobcaygeon, "King of Trumps" 2895; calved March 27th, 1882; bred by Sir George Macpherson Grant, Scotland; got by Young Viscount (736), dam Katie Moor (2984) by Elchies (563).

ANGUS OR POLLED ABERDEEN BULL, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$8.

1st prize, Hon. J. H. Pope, Cookshire, Q., "Dexter"; calved February 15th, 1883, bred by exhibitor; got by Fitz Douglass (1690), dam Stella of Ardeanna.

ANGUS OR POLLED ABERDEEN BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

1st prize, Mossom, Boyd & Co., Bobcaygeon, "Abbotsford."

ANGUS OR POLLED ABERDEEN BULL, ANY AGE.

PRIZES OFFERED:

Dominion Silver Medal.

Mossom, Boyd & Co., Bobcaygeon, "King of Trumps" (2895).

ANGUS OR POLLED ABERDEEN COW.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Hon. J. H. Pope, Cookshire, Q., "Waterside Queen 8th," (6327); calved March 1st, 1878; bred by George Wilken, Scotland; got by Carlos (673), dam Waterside Queen 4th, (6326), by Carlos, (673).
 2nd do Mossom, Boyd & Co., Bobcaygeon, "Morven of Ambleside," (6373); calved January 3rd, 1882, bred by John Adams, Scotland; got by Waterside General, (1546), dam Queen of Marven, (4819), by Baron, Marven, (4819).
 3rd do Hon. J. H. Pope, Cookshire, Que., "Milkmaid of Balquhain" (4766); calved March 25th, 1878; bred by George Wilken, Scotland; got by Sir Walter (1157), dam Milkmaid of Balquhain (4766).

ANGUS OR POLLED ABERDEEN COW, 3 YEARS OLD.

PRIZES OFFERED :

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Mossom, Boyd & Co., Bobcaygeon, "Morven of Ambleside," (6373); calved January 3rd, 1882, bred by John Adams, Scotland; got by Waterside General, (1546), dam Queen of Marven, (4819), by Baron, Marven, (4819).
 2nd do Mossom, Boyd & Co., Bobcaygeon, "Lady Abington," (5804); calved February 4th, 1881, bred by Alex. Mann, Scotland; got by General 2nd, (1692), dam Algina 2nd, (3961), by Victory, (1364).

ANGUS OR POLLED ABERDEEN HEIFER, 2 YEARS OLD.

PRIZES OFFERED :

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

- 1st prize, Hon. J. H. Pope, Cookshire, Q., "Waterside Queen 8th," (6327); calved March 1st, 1882, bred by George Wilken, Scotland; got by His Highness 3rd, (2151), dam Waterside Queen 4th, (6326), by Carlos, (673).
 2nd do Mossom, Boyd & Co., Bobcaygeon, "Morven of Ambleside," (6373); calved January 3rd, 1882, bred by John Adams, Scotland; got by Waterside General, (1546), dam Queen of Marven, (4819), by Baron, Marven, (4819).

ANGUS OR POLLED ABERDEEN HEIFER, 1 YEAR OLD.

PRIZES OFFERED :

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize, Mossom, Boyd & Co., "Coquette of Big Island."
 2nd do Mossom, Boyd & Co., "Duchess of Verulam," (6532); calved January 5th, 1883, bred by Geary Bros., London; got by Polester (1772), dam Duchess of Balucnie (4374), by Moraystown (1439).
 3rd do Mossom, Boyd & Co., Cookshire, Q., "Pride of Big Island."

ANGUS OR POLLED ABERDEEN HEIFER CALF, UNDER 1 YEAR.

PRIZES OFFERED :

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

- 1st prize, Mossom, Boyd & Co., "Exile."
 2nd do Mossom, Boyd & Co., "Lady Windsor," calved January 1st, 1884, bred by exhibitors; got by Lord Dundreary of Amblevide (2946), dam Lulu of Amblevide (6372), by Khedive of Ballindalloch (1153).
 3rd do Mossom, Boyd & Co., Bobcaygeon, "Countess of Big Island," calved January 15th, 1884, bred by exhibitors; got by Ermine Bearer (2082), dam Countess Duntoyne (5800), by Keiser (1253).

HERD OF ANGUS OR POLLED ABERDEENS, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZES OFFERED :

Dominion Gold Medal.

- Hon. J. H. Pope, Cookshire, Que., Dexter, Waterside Queen 3rd (3322), Milkmaid of Balquhain (4766), Waterside Queen 8th (6327).

GLASSBORO.

82 ENTRIES.

JERSEY OR ALDERNEY CATTLE.

- JUDGES.—H. W. Skerritt, Deansville, N.Y.; F. K. Moreland, Ogdensburg, N.Y.; Jacob S. Marselis, Morrisburg.

JERSEY OR ALDERNEY BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED :

First prize, \$35.

Second prize, \$25.

Third prize, \$10.

- 1st prize, Mrs. E. M. Jones, Brockville, "Wanderer," 3216; dark; calved February 26th, 1879; bred by Jas. Levery, Bridgeport, Conn.; sire Wanderer 3014; dam Fairy of Verna.
 2nd do Wm. A. Reburn, St. Annes de Bellevue, "Lord McDuff," 5147; fawn and little white; calved January 20th, 1879; bred by exhibitor; sire Jack Frost of St. Lambert, 2419; dam Young Lisette, 10922, by Lord Melbourne, 5746.
 3rd do William McKay, Morewood, "Cadeaux," 5724, A. J. H. B. Solid; calved July, 1878; bred by Wm. Rutherford, Haddington, N.Y.; sire Auroraborealis 2408; dam Ephra 7210, by St. Hilar, 45.

JERSEY OR ALDERNEY BULL, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$30.

Second prize, \$20.

Third prize, \$10.

- 1st prize, Mrs. E. M. Jones, Brockville, "Rival's Florist," 11764; grey, calved October, 1881, bred by exhibitor; sire Rival 3762, dam Flora of St. Peter.
- 2nd do Geo. Rainboth, Aylmer, Q., "Prince William;" light yellow, calved January 30th, 1882, bred by E. B. Eddy, Hull, Q.; sire Prince Arthur, 1452, dam Hebe VI.
- 3rd do Geo. Whitfield, Rougemont, Q., "Pride of Rougemont;" calved April 25th, 1882, bred by exhibitor; sire Comte de Rouville, dam La Belle de Rougemont, by Victor.

JERSEY OR ALDERNEY BULL, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$8.

- 1st prize, Mrs. E. M. Jones, Brockville, "Diana's Stoke Pogis" 13686; dark grey, calved December 25th, 1883, bred by D. Reesor, Toronto; sire Diana's Riotor, dam Diana of St. Lambert, by Stoke Pogis III.
- 2nd do Geo. Whitfield, Rougemont, Q., "Merry Boy;" calved April 1st, 1883, bred by exhibitor; sire Silver Back, dam Rose May, by Farmer's Glory, 274.

JERSEY OR ALDERNEY BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize, William McKay, "Lisgar's Pride," fawn; calved June 12th, 1884, bred by Harison Stephens, St. Lambert, Q., sire Riotor's Pride, 11694; dam Lisgar's Ella, by Orloff.
- 2nd do Mrs. E. M. Jones, Brockville, "Riotor of St. Lambert," fawn; calved July 7th, 1884, bred by exhibitor; sire Riotor's Stoke Pogis, dam Charity Girl of St. Lambert, by Orloff.
- 3rd do Wm. McKay, Morewood.

JERSEY OR ALDERNEY BULL, ANY AGE.

PRIZES OFFERED:

Dominion Silver Medal.

- Mrs. E. M. Jones, Brockville, "Rival's Florist," 11764; grey, calved October, 1881, bred by exhibitor; sire Rival 3761, dam Flora of St. Peter, 8622.

JERSEY OR ALDERNEY COW.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Mrs. E. M. Jones, Brockville, "Diana of St. Lambert" 6636; dark fawn, calved March 29th, 1877, bred by Hanson Stephens; sire Stoke Pogis III., 2238, dam Pet of St. Lambert, by Lord Lisgar.
- 2nd do Mrs. E. M. Jones, Brockville, "Mulberry" (imp.) 22031; fawn, calved July 9th, 1879, bred by P. Neel, St. John's, I. of Jersey; sire Victor, 148, dam Ningne, by Red Knight.
- 3rd do Alex. McKay, Morewood, "Pet II.;" dark fawn and little white, calved May 10th, 1880, bred by exhibitor; sire Bennett, dam Alice, by Lord Lisgar, 1066.

JERSEY OR ALDERNEY COW, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

Third prize, \$10.

- 1st prize, Mrs. E. M. Jones, Brockville, "Lisgar's Ella;" fawn, calved 1881, bred by Harison Stephens, St. Lambert, Q.; sire Orloff, dam Witch of St. Lambert, by Lord Lisgar.
- 2nd do Mrs. E. M. Jones, Brockville, "Charity Girl of St. Lambert;" fawn, calved April 13th, 1881, bred by Harison Stephens, St. Lambert; sire Orloff, dam Charity of St. Lambert, by Stoke Pogis III.
- 3rd do Mrs. E. M. Jones, Brockville, "Riotor's Queen" 14895; dark fawn, calved June 20th, 1881, bred by Harison Stephens; sire Rambler of St. Lambert, 5285, dam Maud of St. Lambert, by Orloff.

JERSEY OR ALDERNEY HEIFER, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$12.

Third prize, \$8.

- 1st prize, Mrs. E. M. Jones, Brockville, "Rival's Favorite," 24953; fawn, calved November 1st, 1881, bred by exhibitor; sire Rival (imp.), 3762; dam Elsie's Favorite, by John Allen.
- 2nd do Mrs. E. M. Jones, Brockville, "Signadia," 18037; fawn, bred by F. D. Curtis, Bridgeport, Conn.; sire Wanderer, 3014; dam Fadette of Fern 2nd, by Jeeheeboy, 4206.
- 3rd do Wm. A. Reburn, St. Annes de Bellevue, Q., "Gipsy Hugo of St. Annes," 27668; silver grey, calved August 10th, 1882, bred by exhibitor; sire Lord McDuff, 5147; dam Hebe of St. Lambert, 5117, by Victor Hugo (imp.)

JERSEY OR ALDERNEY HEIFER, 1 YEAR OLD.

PRIZES OFFERED.

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

- 1st prize. Mrs. E. M. Jones, Brockville, "Flora's Caroline;" fawn and white, calved May 30th, 1883, bred by exhibitor; sire Rival's Favorite, 11764, dam Canada Caroline, by Czar of New York.
- 2nd do Geo. Whitfield, Rougemont, Que., "Sophie of Rougemont;" calved November 17th, 1882, bred by exhibitor; sire, Mr. Riche's bull, dam Peareass.
- 3rd do Mrs. E. M. Jones, Brockville, "Elfrida of Verna II." 21843; fawn and white, calved March 26th, 1883, bred by F. Bronson, Saugatuck, Conn.; sire, Footstep, 5163; dam, Elfrida of Verna, by Wanderer.

JERSEY OR ALDERNEY HEIFER CALF, UNDER 1 YEAR.

PRIZES OFFERED.

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

- 1st prize, Mrs. E. M. Jones, Brockville, "Cream of Vernon;" fawn, calved Spring, 1884; dam Cream Caroline.
- 2nd do Mrs. E. M. Jones, Brockville, "Annie Laurie of St. Lambert," fawn, calved June 20th, 1884, bred by exhibitor; sire Rieter's Stoke Pogis; dam Duchess of Bagside, by Jersey Gold Dust.
- 3rd do Wm. A. Reburn, St. Annes de Bellevue, Que., "Jolie of St. Lambert 3rd," silver grey and fawn; calved May 12th, 1884, bred by exhibitor; sire Orloff's Stoke Pogis, 11157; dam Jolie of St. Lambert, 5126, by Lord Lisgar, 1066.

HERD OF JERSEY OR ALDERNEY CATTLE, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZES OFFERED:

Dominion Gold Medal.

- Mrs. E. M. Jones, Brockville, Rival's Florist 11764, Diana of St. Lambert, 6636, Lisgar's Ella, Rival's Favorite 27953, and Florist's Caroline.

CLASS XVI.

20 ENTRIES.

HOLSTEINS.

JUDGES.—Alex. Fraser, Tayside; James Dempster, Gananoque; R. Currie, Niagara.

HOLSTEIN BULL, 3 YEARS OLD AND UPWARDS.

PRIZES OFFERED:

First prize, \$30.

Second prize, \$20.

- Lord, Cook & Son, Aultsville, "Lord Byron" (2241); black and white, calved May 19th, 1882, bred by P. W. Broemer, Bossen Triesland; got by Jan, dam Sneeker.

HOLSTEIN BULL, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$15.

- 1st prize, Lord, Cook & Son, Aultsville, "Debroda."

HOLSTEIN BULL CALF, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

- 1st prize, Lord, Cook & Son, Aultsville, "Baron Lisgar."
- 2nd do Lord, Cook & Son, Aultsville, "Brilliant" (2905); calved March 23rd, 1884, bred by exhibitors; got by Mettle (2243), dam Carmina (5113), by Peter.

HOLSTEIN BULL, ANY AGE.

PRIZES OFFERED:

Dominion Silver Medal.

- Lord, Cook & Son, Aultsville, "Lord Byron" (2241) 285 B. H. B.

HOLSTEIN COW.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$15.

- 1st prize, Lord, Cook & Son, Aultsville, "Jessie L." (3043); bred by A. Hoenderken, Holland; got by Goliath, dam Aaltzi.

HOLSTEIN COW, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$15.

Third prize, \$10.

1st prize, Lord, Cook & Son, Aultsville, "Mira II." (2945); calved May 1st, 1881; bred by W. Hulleman, jr., Marble Holland; got by Alexander, dam Mina.

HOLSTEIN HEIFER, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

1st prize, Lord, Cook & Son, Aultsville, "Jean L." (5136); calved April 10th, 1882; bred by Gerrit Loan, North Holland, imported in 1883 by and the property of exhibitors; got by Jan, dam Tante.
 2nd do Lord, Cook & Son, Aultsville, "Carmina" (5113); calved August 14th, 1882, bred by P. E. Terpstra, Friesland, Holland, imported in 1883 by and the property of exhibitors; got by Peter, dam Aaghye.

HOLSTEIN HEIFER, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$12.

Second prize, \$8.

1st prize, Lord, Cook & Son, Aultsville, "Lady Jumbo" (3781); calved April 13th, 1883, bred by B. B. Lord, Sinclairville, N.Y., U.S.; got by Lord's Jumbo (1588); dam Jacoba (2933), by Otto.

HERD OF HOLSTEIN CATTLE, CONSISTING OF 1 BULL AND 4 FEMALES, ANY AGE OR AGES.

PRIZE OFFERED:

Dominion Gold Medal.

Lord, Cook & Son, Aultsville.

CLASS XVII.

GRADE CATTLE.

34 ENTRIES.

JUDGES. —Robert Gibson, Wroxeter; C Barber, Paris; W. A. Webster, Lansdowne.

GRADE COW.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$20.

Third prize, \$15.

1st prize, Thomas Clark, Ottawa.
 2nd do A. Hagar, Plantagenet.
 3rd do A. Hagar, Plantagenet.

GRADE COW, 3 YEARS OLD.

PRIZES OFFERED:

First prize, \$25.

Second prize, \$20.

Third prize, \$15.

1st prize, G. W. Kidd, Carp.
 2nd do Thomas Clarke, Ottawa.

GRADE HEIFER, 2 YEARS OLD.

PRIZES OFFERED:

First prize, \$20.

Second prize, \$15.

Third prize, \$10.

1st prize, Thomas Clark, Ottawa.
 2nd do Thomas Clark, Ottawa.

GRADE HEIFER, 1 YEAR OLD.

PRIZES OFFERED:

First prize, \$15.

Second prize, \$10.

Third prize, \$5.

1st prize, Thomas Clark, Ottawa.
 2nd do Thomas Clark, Ottawa.

GRADE HEIFER CATTLE, UNDER 1 YEAR.

PRIZES OFFERED:

First prize, \$12.

Second prize, \$8.

Third prize, \$5.

1st prize, Thomas Clark, Ottawa.

FOUR OLD FEMALES, ANY AGE.—The property of the Exhibitor.

PRIZE OFFERED:

Dominion Silver Medal.

Thomas Clark, Ontario.

CLASS XVII.

Dominion Special Prize.

11 ENTRIES.

JUDGES' COMMITTEE.—John Carnegie, M.P.P., Peterboro'; J. C. Small, Edmonton; D. Derbyshire, Brockville.

COW OF ANY BREED FOR MILKING PURPOSES (calved previous to 1st of June, 1884).

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

1st prize, James Drummond, Cote Visitation, Que.

2nd do James Drummond, Cote Visitation, Que.

DOMINION SPECIAL PRIZE.

COW OF ANY BREED FOR MILKING PURPOSES (calved after 1st June, 1884).

PRIZES OFFERED:

First prize, \$25.

Second prize, \$15.

1st prize, James Drummond, Cote Visitation, Que.

2nd do James Callaghan, North Gower.

CLASS XVIII½.

EXTRA CATTLE.

24 ENTRIES.

Dominion Silver Medal and \$25.

George E. Whitfield, Rougemont, Quebec, 3 Head of Sussex Cattle, 3 Head of West Highland Cattle, 3 Head of Shetland Cattle, 3 Head of Kerry Cattle.

R. Cummings, Cummings' Bridge, 3 three-year-old Cows (triplets) Ayrshire grades

4 Fat Cattle from Ontario Experimental Farm, Guelph.

SHEEP—LONG WOOLLED.

CLASS XIX.

27 ENTRIES.

COTSWOLDS.

JUDGES.—Albert E. Jones, Essex Centre; Martin Cathral, Annan; Thomas E. Stark, Gananoque.

Best ram, 2 shears and over, James Main, Boyne	\$20 00
2nd do James Main	15 00
3rd do John Miller, Brougham	10 00
Best shearling ram, James Main, Boyne	20 00
2nd do James Main	15 00
3rd do James Main	10 00
Best ram lamb, James Main	15 00
2nd do James Main	12 00
3rd do John Nesbitt, Fallowfield	8 00
Best 2 ewes, 2 shears and over, James Main	16 00
2nd do James Main	12 00
3rd do James Main	8 00
Best 2 shearling ewes, James Main	15 00
2nd do James Main	10 00
3rd do James Main	8 00
Best 2 ewe lambs, James Main	15 00
2nd do James Main	10 00
3rd do John Millar, Brougham	8 00

SPECIAL PRIZE.

Best pen of Cotswolds—1 ram, any age, 2 ewes, 2 shears and over, 2 shearling ewes, and 2 ewe lambs, James Main..... Dominion Gold Medal

CLASS XX.

36 ENTRIES.

LEICESTERS.

JUDGES.—Lewis Ainer, Amherstburg; John Forth, Glen Buell; Robert Whillans, Iderton.

Best ram, 2 shears and over, John Kelly, jr., Shakespeare	\$20 00
2nd do John Kelly, jr.	15 00
Best Shearling ram, John Kelly, jr.	25 00
2nd do John Kelly, jr.	15 00
Best ram lamb, John Kelly, jr.	15 00
2nd do John Kelly, jr.	12 00
3rd do John Kelly, jr.	8 00
Best 2 ewes, 2 shears and over, John Kelly, jr.	20 00
2nd do John Kelly, jr.	12 00
Best 2 shearling ewes, John Kelly, jr.	16 00
2nd do John Kelly, jr.	12 00
Best 2 ewe lambs, John Kelly, jr.	15 00
2nd do John Kelly, jr.	12 00
3rd do John Kelly, jr.	8 00

SPECIAL PRIZE.

Best pen of Leicesters—1 ram any age, 2 ewes, 2 shears and over, 2 shearling ewes and 2 ewe lambs,
John Kelly, jr. Dominion Gold Medal

CLASS XXI.

19 ENTRIES.

LINCOLN SHEEP.

JUDGES.—Samuel Wood, Moulinette; John Peers, Woodstock; J. Laing Cowan, Galt.

Best ram, 2 shears and over, Andrew Murray, Clanbrassil	\$15 00
2nd do Andrew Murray	10 00
Best shearling ram, Andrew Murray	15 00
2nd do Thomas Cameron, Acton	10 00
Best ram lamb, Andrew Murray	12 00
2nd do Andrew Murray	8 00
Best 2 ewes, 2 shears and over, Andrew Murray	15 00
2nd do Andrew Murray	10 00
Best 2 shearling ewes, Andrew Murray	15 00
Best 2 ewe lambs, Andrew Murray	12 00
2nd do Andrew Murray	8 00

SPECIAL PRIZE.

Best pen of Lincolns—1 ram any age, 2 ewes, 2 shears and over, 2 shearling ewes, and 2 ewe lambs,
Andrew Murray. Dominion Silver Medal and 10 00

SHEEP—MEDIUM WOOLLED.

CLASS XXII.

55 ENTRIES.

SOUTHDOWNS.

JUDGES.—Andrew Wilson, Appleton; Hector McLean South Finch; George Cairns, Virgil.

Best ram, 2 shears and over, John Jackson, Abingdon	\$20 00
2nd do John Jackson	15 00
3rd do Robert Marsh, Richmond Hill	10 00
Best shearling ram, Robert Marsh	25 00
2nd do John Jackson	15 00
3rd do Robert Marsh	10 00
Best ram lamb, John Jackson	15 00
2nd do Robert Marsh	12 00
3rd do Robert Marsh	10 00
Best 2 ewes, 2 shears and over, Robert Marsh	20 00
2nd do John Jackson	12 00
3rd do Robert Marsh	8 00
Best 2 shearling ewes, John Jackson	16 00
2nd do Robert Marsh	12 00
3rd do Robert Marsh	8 00
Best 2 ewe lambs, John Jackson	15 00
2nd do John Jackson	12 00
3rd do Robert Marsh	8 00

SPECIAL PRIZES.

Best pen of Southdowns—1 ram any age, 2 ewes, 2 shears and over, 2 shearling ewes and 2 ewe lambs, John Jackson, Abingdon. Dominion Gold Medal

CLASS XXXIII.

82 ENTRIES.

SHROPSHIRE DOWNS.

JUDGES.—P. R. Palmer, Belleville; S. J. Clarke, Canifton; S. K. Miller, Bath.

Best ram, 2 shears and over,	Grant & Campbell, Woodville	\$20 00
2nd do	John Miller, Brougham	15 00
3rd do	Albert Hazet, Plantagenet	10 00
Best shearling ram,	John Dryden, Brooklin	25 00
2nd do	Grant & Campbell	15 00
3rd do	John Miller	10 00
Best ram lamb,	Grant & Campbell	15 00
2nd do	Thomas Shaw, Woodburn	12 00
3rd do	Grant & Campbell	10 00
Best 2 ewes, 2 shears and over,	John Dryden	16 00
2nd do	Grant & Campbell	12 00
3rd do	Grant & Campbell	8 00
Best 2 shearling ewes,	John Dryden	20 00
2nd do	Grant & Campbell	12 00
3rd do	John Dryden	8 00
Best 2 ewe lambs,	Grant & Campbell	15 00
2nd do	John Dryden	12 00
3rd do	John Dryden	8 00

SPECIAL PRIZE.

Best pen of Shropshire—1 ram any age, 2 ewes, 2 shears and over, 2 shearling ewes, and 2 ewe lambs, Grant & Campbell, Woodville. Dominion Gold Medal

CLASS XXIV.

18 ENTRIES.

HAMPSHIRE AND OXFORDSHIRE DOWNS.

JUDGES.—John McLaughlin, Avonmore; John Kemp, Hazeldean.

Best ram, 2 shears and over,	Peter Arkell, Teeswater	\$20 00
2nd do	Peter Arkell	10 00
Best shearling ram,	Peter Arkell	20 00
2nd do	Peter Arkell	10 00
Best ram lamb,	Peter Arkell	10 00
2nd do	Peter Arkell	6 00
Best 2 ewes, 2 shears and over,	Peter Arkell	18 00
2nd do	Peter Arkell	10 00
Best 2 shearling ewes,	Peter Arkell	18 00
2nd do	Peter Arkell	10 00
Best 2 ewe lambs,	Peter Arkell	10 00
2nd do	Peter Arkell	6 00

SPECIAL PRIZE.

Best pen of Hampshire and Oxford Downs—1 ram, 2 ewes, 2 shears and over, 2 shearling ewes, and 2 ewe lambs, Peter Arkell. Dominion Silver Medal and 10 00

CLASS XXV.

29 ENTRIES.

MERINO SHEEP.

JUDGES.—John McLaughlin, Avonmore; John Kemp, Hazeldean.

Best ram, 2 shears and over,	W. M. & J. C. Smith, Fairfield Plains	\$15 00
2nd do	W. M. & J. C. Smith	10 00
Best shearling ram,	W. M. & J. C. Smith	15 00
2nd do	W. M. & J. C. Smith	10 00
Best ram lamb,	W. M. & J. C. Smith	10 00
2nd do	W. M. & J. C. Smith	5 00
Best 2 ewes, 2 shears and over,	W. M. & J. C. Smith	12 00
2nd do	W. M. & J. C. Smith	8 00
Best 2 shearling ewes,	W. M. & J. C. Smith	12 00
2nd do	W. M. & J. C. Smith	8 00
Best 2 ewe lambs,	W. M. & J. C. Smith	8 00
2nd do	W. M. & J. C. Smith	4 00

SPECIAL-PRIZE.

Best pen of Merinos—1 ram any age, 2 ewes, 2 shears and over, 2 shearing ewes, and 2 ewe lambs,
W. M. & J. C. Smith Dominion Silver Medal and 10 00

CLASS XXVI.

11 ENTRIES.

FAT SHEEP.

JUDGES.—J. B. Sanders, Farmersville; John Thompson, Ottawa; Alex. Glass, St. Catharines.

Best 2 fat wethers, 2 shears and over,	James Main, Boyne.....	\$10 00
2nd do	Robert Marsh, Richmond Hill.....	5 00
Best 2 fat wethers, under 2 shears,	John Kelly, jr., Shakespeare.....	10 00
Best 2 fat ewes, 2 shears and over,	Andrew Murray, Clanbrasil.....	10 00
2nd do	Peter Arkell, Teeswater.....	5 00

PIGS—SMALL BREEDS.

CLASS XXVII.

63 ENTRIES.

IMPROVED BERKSHIRE.

JUDGES.—James Anderson, Guelph; A. Cooke, Cooksville; Alex. Elliott.

Best boar, over 2 years,	J. G. Snell & Bros., Edmonton.....	\$20 00
2nd do	W. T. Haines, Guelph.....	10 00
3rd do	J. G. Snell & Bros.....	5 00
Best boar, over 1 year and under 2 years,	J. G. Snell & Bros.....	20 00
2nd do	Peter Arkell, Teeswater.....	10 00
3rd do	W. T. Haines.....	5 00
Best boar, over 6 months and under 12 months,	J. G. Snell & Bros.....	20 00
2nd do	W. T. Haines.....	10 00
3rd do	J. G. Snell & Bros.....	5 00
Best boar, under 6 months,	J. G. Snell & Bros.....	12 00
2nd do	W. T. Haines.....	8 00
3rd do	Peter Arkell.....	4 00
Best boar, any age,	J. G. Snell & Bros.....	Dominion Silver Medal
Best sow, over two years,	J. G. Snell & Bros.....	20 00
2nd do	J. G. Snell & Bros.....	10 00
3rd do	Herman Thorbahn, Ottawa.....	5 00
Best sow, over 1 year and under 2 years,	J. G. Snell & Bros.....	20 00
2nd do	W. T. Haines.....	10 00
3rd do	J. G. Snell & Bros.....	5 00
Best sow, over 6 months and under 12 months,	J. G. Snell & Bros.....	20 00
2nd do	W. T. Haines.....	10 00
3rd do	J. G. Snell & Bros.....	5 00
Best sow, under 6 months,	J. G. Snell & Bros.....	12 00
2nd do	J. G. Snell & Bros.....	8 00
3rd do	J. G. Snell & Bros.....	6 00
Best sow, any age,	J. G. Snell & Bros.....	Dominion Silver Medal

SPECIAL PRIZE.

Best Berkshire boar, and 4 sows of any age, J. G. Snell & Bros..... Dominion Gold Medal

CLASS XXVIII.

63 ENTRIES.

SUFFOLK.

JUDGES.—Benjamin Storey, Picton; John Thompson, Uxbridge; A. T. White, Pembroke.

Best boar, over 2 years,	W. G. Baldwin, Colchester.....	\$20 00
2nd do	Joseph Featherston, Credit.....	10 00
Best boar, over 1 year and under 2,	T. G. Nankin, Merivale.....	20 00
2nd do	W. G. Baldwin.....	10 00

Best boar, over 6 months and under 12, W. G. Baldwin	20 00
2nd do W. G. Baldwin	10 00
Best boar, under 6 months, Geo. Lang, Ottawa	12 00
2nd do W. G. Baldwin	8 00
3rd do W. G. Baldwin	4 00
Best boar, any age, W. G. Baldwin	Dominion Silver Medal
Best sow, over 2 years, W. G. Baldwin	15 00
2nd do W. G. Baldwin	10 00
Best sow, over 1 year and under 2 years, Jos. Featherston	20 00
2nd do W. G. Baldwin	10 00
Best sow, over 6 months and under 12 months, W. G. Baldwin	20 00
2nd do W. M. & J. C. Smith, Fairfield Plains	10 00
Best sow, under 6 months, W. G. Baldwin	20 00
2nd do Geo. Lang	8 00
Best sow, any age, W. G. Baldwin	Dominion Silver Medal

SPECIAL PRIZE.

Best boar and 2 sows, any age, W. G. Baldwin	Dominion Silver Medal
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CLASS XXX.

22 ENTRIES.

ESSEX PIGS.

JUDGES.—Jas. L. Peers, Woodstock; Jas. Cross, L'Orignal; Chas. E. Brown, Niagara.

Best boar, over 2 years, Jos. Featherston, Credit	\$15 00
2nd do Jos. Featherston	10 00
Best boar, over 1 year and under 2, Jos. Featherston	15 00
2nd do Jos. Featherston	10 00
Best boar, over 9 months and under 12, Jos. Featherston	15 00
2nd do Jos. Featherston	10 00
Best boar, under 6 months, Jos. Featherston	12 00
2nd do Jos. Featherston	8 00
Best boar, any age, Jos. Featherston	Dominion Silver Medal
Best sow, over 2 years, Jos. Featherston	15 00
2nd do Jos. Featherston	10 00
Best sow, over 1 year and under 2, Jos. Featherston	15 00
2nd do Jos. Featherston	10 00
Best sow, over 6 months and under 12, Jos. Featherston	15 00
2nd do Jos. Featherston	10 00
Best sow, under 6 months, Jos. Featherston	12 00
Best sow, any age, Jos. Featherston	Dominion Silver Medal

SPECIAL PRIZE.

Best Essex boar and 2 sows, any age, Jos. Featherston	Dominion Silver Medal
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PIGS—LARGE BREEDS.

CLASS XXXI.

76 ENTRIES.

YORKSHIRE, CHESTER WHITES, ORIO IMP. CHESTER, WHITE LANCASHIRE, AND OTHER LARGE BREEDS.

JUDGES.—F. Birdsall, Birdsall; John Thompson, Gananoque.

Best boar, over 2 years, Jos. Featherston, Credit	\$10 00
2nd do Jos. Featherston	12 00
Best boar, over 1 year and under 2, Jos. Featherston	18 00
2nd do A. Bufton, Ottawa	12 00
3rd do Jos. Featherston	6 00
Best boar, over 6 months and under 12, Jos. Featherston	18 00
2nd do T. G. Nankin, Merivale	12 00
3rd do Jos. Featherston	6 00
Best boar, under 6 months, Jos. Featherston	12 00
2nd do Jos. Featherston	8 00
3rd do T. G. Nankin, Merivale	4 00
Best boar, any age, Jos. Featherston	Dominion Silver Medal
Best sow, over 2 years, T. G. Nankin, Merivale	\$18 00
2nd do Herman Thorbahn, Ottawa	12 00
3rd do Jos. Featherston	6 00

Best sow, over 1 year and under 2, Jos. Featherston	18 00
2nd do A. Bufton	12 00
3rd do Jos. Featherston	6 00
Best sow, over 6 months and under 12, A. Bufton	18 00
2nd do Jos. Featherston	12 00
3rd do Jos. Featherston	6 00
Best sow, under 6 months, A. Bufton	12 00
2nd do Jos. Featherston	8 00
3rd do Jos. Featherston	4 00
Best sow, any age, T. G. Nankin	Dominion Silver Medal

SPECIAL PRIZE.

Best Yorkshire or other large breed boar and 2 sows, any age, Jos. Featherston	Dominion Silver Medal
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CLASS XXXIII.

106 ENTRIES.

POULTRY, ETC.

JUDGES.—William Luscombe, Sarnia ; G. J. Miller, Virgil ; Joseph Foster, Malton.

Best pair Dorkings, white, A. & D. Bogue, London	\$3 00
2nd do W. M. & J. C. Smith, Fairfield Plains	2 00
3rd do J. Forth & Sons, Glen Buell	1 00
Best pair Dorkings, silver grey, Jas. Main, Boyne	3 00
2nd do Jas. Main	2 00
3rd do J. Forth & Sons	1 00
Best pair Dorkings, colored, Jas. Main	3 00
2nd do Jas. Main	2 00
Best pair Polands, white, A. & D. Bogue	3 00
Best pair Polands, golden, G. Bogue Smart, Brockville	3 00
2nd do A. & D. Bogue	2 00
3rd do A. & D. Bogue	1 00
Best pair Polands, silver, A. & D. Bogue	3 00
2nd do W. M. & J. C. Smith	2 00
3rd do J. Forth & Sons	1 00
Best pair Polands, white-crested, black, A. & D. Bogue	3 00
2nd do A. & D. Bogue	2 00
3rd do J. Forth & Sons	1 00
Best pair Plymouth Rock, J. Forth & Sons	3 00
2nd do A. C. Macdougall, Ottawa	2 00
3rd do A. Bufton, Ottawa	1 00
Best pair Brahmas, light, A. Bufton	3 00
Best pair Brahmas, dark, J. Forth & Sons	3 00
Best pair Houdans, A. & D. Bogue	3 00
Best pair Game Fowls, black-breasted, or other reds, James Main	3 00
2nd do James Main	2 00
3rd do J. Forth & Sons	1 00
Best pair Game Fowls, duck-wing, W. M. & J. C. Smith	3 00
Best pair Leghorns, white, W. M. & J. C. Smith	3 00
2nd do J. Forth & Sons	2 00
3rd do J. Forth & Sons	1 00
Best pair Leghorns, brown, W. M. & J. C. Smith	3 00
2nd do J. Forth & Sons	2 00
Best pair Leghorns, black, W. M. & J. C. Smith	3 00
2nd do W. M. & J. C. Smith	2 00
Best pair Spanish fowls, G. Bogue, Smart	3 00
2nd do W. M. & J. C. Smith	2 00
Best pair Hamburgs, golden-pencilled, G. Bogue, Smart	3 00
2nd do W. M. & J. C. Smith	2 00
Best pair Hamburgs, silver-pencilled, A. & T. Bogue	3 00
2nd do W. M. & J. C. Smith	2 00
Best pair Hamburgs, golden-spangled, A. & D. Bogue	3 00
2nd do A. & D. Bogue	2 00
3rd do W. M. & J. C. Smith	1 00
Best pair Hamburgs, silver-spangled, W. M. & J. C. Smith	3 00
Best pair Hamburgs, black, A. & D. Bogue	2 00
2nd do W. M. & J. C. Smith	2 00
Best pair Crevecours, W. M. & J. C. Smith	3 00
2nd do W. M. & J. C. Smith	2 00
Best pair Bantams, Sebright, James Main	3 00
Best pair Bantams, any other variety, A. & D. Bogue	3 00
Best pair Turkeys, any colour, James Main	3 00
2nd do James Main	2 00
Best pair Geese, Bremen, James Main	3 00
2nd do James Main	2 00

Best pair Geese, Toulouse, James Main	\$3 00
Best pair Geese, any other kind, W. M. & J. C. Smith	3 00
Best pair Geese, any other kind, W. M. & J. C. Smith	3 00
2nd do	2 00
3rd do	2 00
Best pair Ducks, Aylesbury, H. & D. Bogue	3 00
2nd do	2 00
3rd do	2 00
Best pair Ducks, Rouen, James Main	3 00
2nd do	2 00
3rd do	2 00
Best pair Pekin Ducks, Mrs. Holt, New Edinburgh	3 00
Best pair Ducks, any other kind, W. M. & J. C. Smith	3 00
2nd do	2 00
3rd do	1 00
Best pair Game Fowls, W. M. & J. C. Smith	3 00
Best pair Pea Fowls, A. F. Graham, Hawthorne	3 00

SPECIAL PRIZE.

Collection of poultry, W. M. & J. C. Smith	Dominion Silver Medal
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EXTRAS.

Pair Ring Doves, Fred S. Taylor, Ottawa	Diploma
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CLASS XXIV.

82 ENTRIES.

CHICKENS, DUCKS, ETC., 1884.

JUDGES.—John McL. Land, Peterborough; A. W. Smith, Suncoy; J. Cuppage, Orillia.

Best pair Dorkings, white, A. & D. Bogue, London	\$2 00
2nd do	1 50
3rd do	1 00
Best pair Dorkings, silver grey, James Main, Boyne	2 00
2nd do	1 50
3rd do	1 00
Best pair Dorkings, colored, James Main	2 00
2nd do	1 50
3rd do	1 00
Best pair Polands, white, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Polands, golden, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Polands, silver, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Polands, white-crested black, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Plymouth Rocks, Alex. McKay, Morewood	2 00
2nd do	1 50
3rd do	1 00
Best pair Cochins, white, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Langhams, Mrs. Holt, New Edinburgh	2 00
Best pair Game fowls, black-breasted and other reds, James Main	2 00
2nd do	1 50
3rd do	1 00
Best pair Game fowls, duck-wing, W. M. & J. C. Smith	2 00
Best pair game fowls, any other variety, James Greaves, Ottawa	2 00
Best pair Leghorns, white, A. E. Macdougall	2 00
Best pair Leghorns, brown, W. M. & J. C. Smith	2 00
Best pair Leghorns, black, A. E. Macdougall	2 00
Best pair Spanish Bantams, G. B. & J. Stuart, Brockville	2 00
2nd do	1 50
3rd do	1 00
Best pair Hamburgs, golden-spangled, A. & D. Bogue	2 00
Best pair Hamburgs, silver-pencilled, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Hamburgs, golden-spangled, A. & D. Bogue	2 00
Best pair of Hamburgs, silver-spangled, W. M. & J. C. Smith	2 00
2nd do	1 50
3rd do	1 00
Best pair Hamburgs, black, A. & D. Bogue	2 00
2nd do	1 50
3rd do	1 00
Best pair Crevecours, W. M. & J. C. Smith	2 00
Best pair Bantams, Sebright, James Main	2 00
2nd do	1 50
3rd do	1 00
Best pair Bantams, black-breasted or other reds, James Main	2 00
2nd do	1 50
3rd do	1 00

Best pair Bantams, any other sort, A. & D. Bogue	\$2 00
2nd do James Greeves	1 50
Best pair Turkeys, any colour, James Main	2 00
2nd do James Main	1 50
Best pair Geese, Bremen, James Main	2 00
Best pair Ducks, Rouen, James Main	2 00
2nd do James Main	1 50
Best pair Ducks, any other kind, A. & D. Bogue	2 00
2nd do Mrs. Holt	1 50
3rd do James A. Hurn, Billing's Bridge	1 00
Best pair Pea Fowls, A. J. Graham, Hawthorne	2 00

AGRICULTURAL IMPLEMENTS.

CLASS XXXV.

175 ENTRIES.

AGRICULTURAL IMPLEMENTS AND MACHINES FOR EXHIBITION ONLY.

In this case, by request of numerous manufacturers, entries of the undermentioned articles will be received for exhibition only, not in competition for prizes. The articles must be entered in the books in the same manner as articles in other classes, and they will be provided with ample space for exhibition in the same manner as if competing for prizes.

Grain drill	{ Noxon Bros. Manufacturing Company, Ingersoll. J. O. Wisner, Son & Co., Brantford. Coulthard, Scott & Co., Oshawa. G. A. Masson, Oshawa. George Moorehouse, Almer, Que. W. T. Dingle, Oshawa.
Broad-cast grain and seed sower	{ Noxon Bros. Manufacturing Company. J. O. Wisner, Son & Co. Coulthard, Scott & Co. George A. Masson. J. W. Mann Manufacturing Co., per J. A. Publow, Brockville.
Mowing machine	{ Noxon Bros. Manufacturing Company. Patterson & Bros., Patterson. Gurney Manufacturing Company, Dundas. Patterson & Bro., Whitby. Watson Manufacturing Company, Ayr. Massey Manufacturing Company, Toronto. Chatham Harvester Manufacturing Company, Chatham. Frost & Wood, Smith's Falls. George Pye, C. E., Ottawa. L. D. Sawyer & Co., Hamilton. North American Manufacturing Company, London. Cochrane Manufacturing Company, St. Thomas. J. R. Sproule, Ottawa. Haggart Bros. Manufacturing Company, Brampton. A. Harris & Co., Brantford.
Reaping machine	{ Noxon Bros. Manufacturing Company. Patterson Bros. Gurney Manufacturing Company. Patterson & Bro. Watson Manufacturing Company. Chatham Harvester Manufacturing Company. Frost & Wood. L. D. Sawyer & Co. North American Manufacturing Company. Haggart Bros. Manufacturing Company. A. Harris & Co.
Combined mower and reaper	{ Noxon Bros. Manufacturing Company. Patterson Bros. Gurney Manufacturing Company. Patterson & Bro. Watson Manufacturing Company. Massey Manufacturing Company. Chatham Harvester Manufacturing Company. Frost & Wood. North American Manufacturing Company. Cochrane Manufacturing Company, St. Thomas. J. R. Sproule. A. Harris & Co.
Self-binding reaper	{ Noxon Bros. Manufacturing Company. Patterson Bros. Gurney Manufacturing Company. Patterson & Bro. Watson Manufacturing Company. Massey Manufacturing Company. Chatham Harvester Manufacturing Company. Frost & Wood. North American Manufacturing Company. Cochrane Manufacturing Company, St. Thomas. J. R. Sproule. A. Harris & Co.

	John A. Bell, Woodbridge.
	Farran, Macpherson & Hovey, Clinton.
	James F. Smith, Mayville.
Horse-power threshing and separator.	Haggart Bros. Manufacturing Company.
	B. L. Olds & Co., Montreal, Quebec.
	McArthur & Sons, Toronto.
	John Graylock, Ottawa.
	John A. Bell.
Vibrator threshing and separator.	Farran, Macpherson & Hovey.
	E. D. Sawyer.
	Haggart Bros. Manufacturing Company.
	B. L. Olds & Co.
Clover cleaning machine.	John A. Bell.
Two horse cultivator, wood.	J. O. Wismer & Sons.
	Jeffrey Bros., Montreal, Quebec.
	Ayr American Plow Company, Ayr.
Two-furrow plough.	Patterson & Bro.
	Gray Manufacturing Company, per Wm. Evans, agent, Mo- Quebec.
Draining plough or ditching machine for cutting drains.	Wm. R. King, Toronto, per Geo. Burroughs, agent, Fallowfield.
Implement or machine for cutting, pull- ing or otherwise harvesting peas.	Toltan Bros., Guelph, per Geo. Burroughs, George Burroughs, Fallowfield.
Portable grist mill.	Waterous Engine Works Company, Brantford. S. Vassar & Co., Quebec. Patterson Bros. John A. Bell.
Grain cracker.	Patterson & Bro. Watson Manufacturing Company. Waterous Engine Works Company.
Corn and Cob crusher.	Ames Plow Co.
Two horse power for general purposes, for farmers' use.	John A. Bell. Haggart Bros. Manufacturing Company. B. L. Olds & Co.
Drag saw.	B. L. Olds & Co. Patterson Bros.
Spring tooth harrow.	J. O. Wismer, Son, & Co. Coulthard, Scott & Co. J. W. Mann Mfg. Co., per J. H. Pueblow, agent.
Cider mill and press.	Ames Plow Co., Boston, Mass., U. S. per Wm Evans, agent.
Horse pitch fork and tackle.	Workman and Ward, London.

CLASS XXXVI.

100 ENTRIES.

AGRICULTURAL IMPLEMENTS.

JUDGES.—James Clark, Drummondville; John Douglass, Meaford; Chas. Scott, Melville Cross.

Best double mould plow, Jeffrey Bros., Montreal, Quebec.	\$10 00
Best gang plough, Cockshutt Plow Co., Brantford.	10 00
2nd do Frost & Wood Smiths Falls.	8 00
3rd do Copp Bros., Hamilton, per Wm. Evans, agent, Montreal.	4 00
Best horse-hoe or single horse cultivator, iron, Cockshutt Plow Co.	4 00
2nd do do Copp Bros., per Wm. Evans, agent.	3 00
3rd do do Ayr American Plow Co.	2 00
Best horse-hoe or single horse cultivator, wood, G. A. Mason, Oshawa.	4 00
2nd do do Ayr American Plow Co.	3 00
3rd do do Jeffrey Bros.	2 00
Best root seed drill, horse, 2 drills sown, G. F. Wilkinson & Co., Aurora.	4 00
Best iron-beam plough, with steel mouldboard and wood handles, D. McArthur & Son, Creemore.	10 00
2nd do do G. F. Wilkinson & Co.	6 00
3rd do do Frost & Wood.	4 00
Best iron plough, G. F. Wilkinson & Co.	15 00
2nd do D. McArthur & Son.	10 00
3rd do Jeffrey Bros.	5 00
Best chill plough, with jointer attachment, Ayr American Plow Company.	10 00
2nd do do Cockshutt Plow Co.	6 00

* NOTE.—The Committee decided to award this exhibit a Silver Medal.

Best subsoil plow, Jeffrey Bros.	\$10 00
2nd do Ayer American Plow Co.	6 00
3rd do Ames Plow Co., per Wm. Evans, agent	4 00
Best wooden plough, Jeffrey Bros.	10 00
2nd do Frost & Wood	8 00
3rd do Ames Plow Co., per Wm. Evans, agent	4 00
Best machine for cutting roots for stock, D. Maxwell, Paris, per Wm. Evans, agent.	8 00
2nd do do Wm. Evans, agent, Montreal	6 00
Best machine for pulping roots, D. Maxwell, per Wm. Evans, agent.	8 00
2nd do do Bell & Son, St. George, per Wm. Evans, agent	6 00
Best pair of iron harrows, John Howell, Vernon.	10 00
2nd do do Wm. Timney, Canada	8 00
3rd do do Wm. Evans, agent	6 00
Best pair wood harrows, Jeffrey Bros.	6 00
Best wooden roller, Jeffrey Bros.	10 00

SPECIAL PRIZE.

Largest and best collection of agricultural implements and machines manufactured by the exhibitor
National Manufacturing Co. of Ottawa, a tent, Jeffrey Bros. value 50 00

EXTRAS.

Dominion Silver Medal.—Potato planter, Jeffrey Bros., Montreal, Quebec.

Dominion Bronze Medal.—Poison Distributor, Jeffrey Bros., Montreal, Quebec. Iron Roller, St. Lawrence Manufacturing Co., Prescott. Lard and wine presses, Ames Plow Co., Boston, Mass., U. S., per Wm. Evans, agent, Montreal.

Diploma.—Side Hill Plough, Ayer American Plow Co. Steel scrapers, G. Wilkinson & Co, Aurora. Pair Hill Harrows, Jeffrey Bros., Montreal. Grindstone for sharpening reaper and mower knives, George Armand & Son, Ottawa.

CLASS XXXVII.

167 ENTRIES.

CARRIAGES AND SLEIGHS, AND PARTS THEREOF.

JUDGES.—John Ferguson, Thamesville; W. Y. Dargavel, Elgin; F. Henderson, Aultsville.

Best axle, wrought iron, Jeffrey Bros., Montreal	\$
Best buggy, double seated, covered, R. Shore, Ottawa	8 00
2nd do Gananoque Carriage Works, Gananoque	6 00
Best buggy, double seated, uncovered, R. Shore	6 00
2nd do J. B. Abbott, Ottawa	4 00
Best buggy, single seated, covered, Gananoque Carriage Works, Gananoque	8 00
2nd do J. B. Abbott	6 00
Best buggy, single seated, uncovered, J. B. Abbott	6 00
2nd do Louis Duhamel, Ottawa	4 00
Best carriage, hack, J. W. Brown & Co., Kingston	10 00
Best carriage, two-horse, pleasure, Louis Duhamel	12 00
2nd do J. B. Abbott	8 00
Best buck-board vehicle, J. W. Taylor, Gananoque	6 00
2nd do J. B. Abbott	4 00
Best skeleton speeding waggon, J. B. Abbott	6 00
Best carriage and buggy woodwork, assortment of, Gananoque Carriage Works, Gananoque	10 00
Best two-passenger village road cart, Gananoque Carriage Works	6 00
Best dog cart, R. Shore	6 00
Best pair bob sleighs, Chatham Manufacturing Company, Chatham	8 00
2nd do Jeffrey Bros., Montreal, Que.	4 00
Best one-horse cart, Jeffrey Bros.	6 00
2nd do Chatham Manufacturing Company	4 00
Best omnibus, Jas. St. Charles, Belleville	12 00
Best two-horse team waggon, iron axle, Adams & Sons, Paris	12 00
2nd do do J. & P. Armstrong, Ottawa	8 00
Best two-horse team waggon, thimble skein, Chatham Manufacturing Company	12 00
2nd do do Adams & Sons	8 00
Best phaeton, uncovered, R. Shore	6 00
Best phaeton, covered, Gananoque Carriage Works	6 00
2nd do R. Shore	4 00
Best pleasure cutter, Gananoque Carriage Works	6 00
2nd do R. Shore	4 00
Best Sleigh, two-horse, pleasure, R. Shore	8 00
2nd do do J. B. Abbott	6 00
Best sleigh, hack, R. Shore	6 00
Best and largest display of vehicles, Gananoque Carriage Works	Dominion Silver Medal
Best one-horse light market waggon, Gananoque Carriage Works	10 00
2nd do do J. & P. Armstrong, Ottawa	5 00

Best one-horse sulky, Gananoque Carriage Works	\$6 00
2nd do do J. B. Abbott	5 00
Best two-horse spring market waggon, Gananoque Carriage Works	10 00
2nd do do J. & P. Armstrong	5 00
Best wheel, one pair carriage, unpainted, J. B. Abbott	1 00
2nd do do Gananoque Carriage Works	2 00
Best collection of carriage material, Gananoque Carriage Works	Dominion Silver Medal
Best let-off and box setting machine, J. G. Bricker, Waterloo	5 00
Best single carriage makers' hub borer or box setting machine, J. G. Bricker, Waterloo	5 00

EXTRAS.

Dominion Silver Medal.—Bodies, wheels, and gears, C. W. Taylor, Gananoque. Assortment buggy and carriage gear, R. Lowrie, Gananoque.

Dominion Bronze Medal.—Dumping waggon, Henry Leggett, Renfrew. Steel carriage wheel, Daniel Johnston, Cumbermere. One-man road waggon, Gananoque Carriage Works. Gears, Gananoque Carriage Works. Heavy team Lorrie, Adams & Sons, Paris.

Diploma.—Lumber roller truck, Chatham Manufacturing Co., Chatham. Improved vehicle seat, P. A. Lariiviere, Ottawa. Automatic tongue support, P. Adams & Son, Paris. Reindeer cutter, Gananoque Carriage Works, Gananoque. Collection of steel, buggy and carriage gears and finished work, Guelph Carriage Goods Co., Guelph. Cutter finished in white, C. W. Taylor, Gananoque. Buck board vehicle, Wm. Lockwood, Madrid, N.Y.

Highly Commended.—Pleasure cutter, Louis Duhamel, Ottawa.

CLASS XXXVIII.

43 ENTRIES.

AGRICULTURAL TOOLS AND IMPLEMENTS, CHIEFLY FOR HAND USE.

JUDGES.—C. Cook, Cookstown; P. R. Daly, Belleville; Robert Young, Russell.

Best set draining tools, Frothingham & Workman, Montreal, per Wm. Evans, agent, Montreal	\$6 00
Best half-dozen spades, Frothingham & Workman, per Wm. Evans, agent	3 00
2nd do do Frothingham & Workman, per Wm. Evans, agent	2 00
Best half-dozen steel hoes, A. S. Whiting, Manufacturing Co., Oshawa, per Wm. Evans, agent	3 00
Best half-dozen steel shovels, Frothingham & Workman, per Wm. Evans, agent	3 00
2nd do do Frothingham & Workman, per Wm. Evans, agent	2 00
3rd do do Frothingham & Workman, per Wm. Evans, agent	1 00
Best half-dozen grain scoops, Frothingham & Workman, per Wm. Evans, agent	3 00
Best half-dozen manure forks, A. S. Whiting, Manufacturing Co., per Wm. Evans, agent	3 00
2nd do do A. S. Whiting, Manufacturing Co., per Wm. Evans, agent	2 00
3rd do do A. S. Whiting, Manufacturing Co., per Wm. Evans, agent	1 00
Best half-dozen spading forks, A. S. Whiting, Manufacturing Co., per Wm. Evans, agent	3 00
Best seed drill, or barrow for turnips, etc., Jeffrey Bros., Montreal	4 00
2nd do do Mathews' Manuf'g. Co., Phil., per Wm. Evans, agent	3 00
Best machine for sowing grass seeds, Wm. Evans, agent	4 00
2nd do do Wm. Evans, agent, for Colquhoun	3 00
Best garden walk or lawn roller, Smart Manuf'g. Co., Brockville, per Wm. Evans, agent	3 00
Best half-dozen scythe snaths, Ketchum, St. Catharines, per Wm. Evans, agent	3 00
Best grain cradle, Ketchum, per Wm. Evans, agent	2 00
Best half-dozen grass scythes, Frothingham & Woodman, per Wm. Evans, agent	3 00
Best lawn mower, Chadboane & Caldwell, Newbury, N.Y., per Wm. Evans, agent	6 00
2nd do do Wm. Russell, Guelph	3 00
Best half-dozen hay rakes, Ketchum, St. Catharines, per Wm. Evans, agent	3 00
Best half-dozen hay forks, A. S. Whiting Mfg. Co., per Wm. Evans, agent	4 00
2nd do do A. S. Whiting Mfg. Co., per Wm. Evans, agent	2 00
Best straw or barley fork, wood, Ketchum, per Wm. Evans, agent	2 00
Best half-dozen axe handles, John Kelly, Dartford	2 00
Best set heavy horse shoes, John H. Evans, Billing's Bridge	3 00
Best set horse shoes, light, John H. Evans	3 00
Best farm gate, C. W. Jones, London	Dominion Silver Medal
2nd do do Frothingham & Workman, per Wm. Evans, agent	2 00
Best assortment agricultural tools for hand use, of Canadian manufacture or his agents, Frothingham & Workman, per Wm. Evans, agent	Dominion Silver Medal
Best apple packer, Amos Plow Company, per Wm. Evans, agent	3 00

EXTRAS.

Dominion Silver Medal.—Assortment tools, per Wm. Evans, agent, J. E. Street, New York. Collection of garden and horticultural tools for hand use, Sayno & Cook, Sheffield, Que., per Wm. Evans, agent.

Dominion Bronze Medal.—Potato digger, James Hickey, Ottawa.

Highly Commended.—Steel rakes, A. S. Whiting Mfg. Co., per Wm. Evans, agent.

AGRICULTURAL PRODUCTS.

CLASS XXXIX.

268 ENTRIES.

FIELD GRAINS, HOPS, ETC.

JUDGES.—Oliver Austin, Simcoe; A. V. Price, Newburgh; James Haggarty, West Huntingdon.

1st prize, The Canada Company's prize for the best red or white 25 bushels of Fall Wheat, the produce of the Province of Ontario, being the growth of 1884 (Seales, Diehl and Treadwell varieties not allowed to compete this year). Each sample must be of one distinct variety, pure and unmixed, of the best quality for seed, and not to be tested merely by weight. The prizes to be awarded to the actual grower only of the wheat, which is to be given up to and become the property of the Association, for distribution in the several agricultural districts for seed, W. M. & J. C. Smith, Fairfield Plains.....			\$100 00
2nd do	By the Association, Wm. Harvey, Freeman		30 00
3rd do	do do Wm. Tuck, Waterdown		15 00
Best white winter wheat, 2 bushels,	W. Tuck		10 00
2nd do	do do Wm. Pennock, Elgin		8 00
3rd do	do do Wm. Harvey		6 00
4th do	do do John Duff, Myrtle		4 00
Best red winter wheat, 2 bushels,	W. Hartman, Clarksburg		8 00
2nd do	do do W. M. & J. C. Smith		6 00
3rd do	do do Charles Grant, Thornbury		4 00
4th do	do do W. Hartman		2 00
Best Fife spring wheat, 2 bushels,	E. C. Bennett, Clarksburg		8 00
2nd do	do do T. & J. Manderson, Myrtle		6 00
3rd do	do do Charles Grant		4 00
Best white Russian or Lost Nation wheat, 2 bushels,	I. & J. Manderson		8 00
2nd do	do do Wm. Harvey		6 00
3rd do	do do Charles Grant		4 00
Best spring wheat of any other variety, 2 bushels,	Wm. Pennock		8 00
2nd do	do do Charles Grant		6 00
3rd do	do do I. & J. Manderson		4 00
Best buckwheat, 1 bushel,	Oliver Beaudry, St. Alexis		3 00
2nd do	do do Clet. Martin Bernabe, St. Esprit		2 00
3rd do	do do W. M. & J. C. Smith		1 00
Best barley (2 rowed) 2 bushels,	John Duff, Myrtle		6 00
2nd do	do do T. & J. Manderson		4 00
3rd do	do do Charles Grant		2 00
Best barley (6 rowed) 2 bushels,	T. & J. Manderson		6 00
2nd do	do do A. Knight, Cataragui		4 00
3rd do	do do W. M. & J. C. Smith		2 00
Best barley, black,	Charles Grant		6 00
2nd do	do do Wm. and J. C. Smith		4 00
3rd do	do do Wm. Pennock		2 00
Best winter rye, 2 bushels,	Wm. Pennock		6 00
2nd do	do do Charles Grant		4 00
3rd do	do do Clet. M. Bernabe		2 00
Best oats (white) 2 bushels,	Wm. & J. C. Smith		6 00
2nd do	do do John Duff, Myrtle		4 00
3rd do	do do Wm. Pennock		2 00
Best oats (black) 2 bushels,	T. & J. Manderson		6 00
2nd do	do do John Duff		4 00
3rd do	do do Wm. Pennock		2 00
Best small field peas, 2 bushels,	T. & J. Manderson		6 00
2nd do	do do W. M. & J. C. Smith		4 00
3rd do	do do Wm. Watts, Merrickville		2 00
Best Marrowfat peas, 2 bushels,	John Duff		6 00
2nd do	do do Clet. M. Bernabe		4 00
3rd do	do do David M. Bernabe		2 00
Best field peas, 2 bushels of any other kind,	Chas. Grant		6 00
2nd do	do do Walter Hartman		4 00
3rd do	do do T. & J. Manderson		2 00
Best small white field beans, bush.,	Albert Hagar, Plantagenet		6 00
2nd do	do do Edward Ferland, Lanoraie		4 00
3rd do	do do James Ellis, Billings Bridge		2 00
Best large white field beans, bush.,	James A. Hurn, Billing's Bridge		6 00
2nd do	do do A. Knight		4 00
3rd do	do do Charles Grant		2 00
Best Indian corn in the ear (white) 2 bushels,	George Cairns, Virgil		6 00
2nd do	do do J. D. Lutz, Stony Creek		4 00
3rd do	do do Henry Lutz, Stony Creek		2 00

Best Indian corn (yellow) 2 bushels, J. D. Lutz	\$6 00
2nd do do Henry Lutz	4 00
3rd do do George Cairns	2 00
Best sweet corn, 1 bushel, George Cairns	5 00
Specimens of the early amber sugar-cane, not less than 20 lbs., Clet. M. Bernabe	4 00
2nd do do David M. Bernabe	2 00
Best collection of grain in the straw, Charles Grant	Dominion Silver Medal

EXHIBITS.

Dominion Silver Medal.—Collection of Seeds and Dried Flowers, Wm. Evans, Montreal.

STATEMENT.

"L'Avant Wheat."—Sown about September 10th, 1883, in seeded wheat, on sandy loam, with clay gravel bottom, which grew barley in the summer of 1883, and corn and potatoes in 1882. No manure was used for wheat, of which about 1½ bushels were sown to the acre. It was slightly winter killed and produced about 35 bushels per acre.

(Signed) W. M. & J. C. SMITH.

STATEMENT.

Clawson Wheat.—This variety was introduced in this country about eight years ago, and has taken the lead as the best wheat to grow for profit in this section. Sample shown was the growth of 1884, was grown on barley stubble ground, was sown on September 20th, 1883, soil clay loam, ploughed twice, and about six loads of manure to the acre.

(Signed) WM. HARVEY,
FREDERICK P.O.,
Halton Co., Ont.

CLASS XL.

100 ENTRIES.

SMALL FIELD SEEDS, FLAX, HEMP, ETC.

JUDGES.—Thomas E. Bell, Peterboro; Eli Gregory, Port Dalhousie; J. C. Stevens, Almonte.

Best timothy seed, 1 bushel, James Dingwall, Williamstown	\$6 00
2nd do do T. & J. Manderson, Myrtle	4 00
3rd do do Edward Ferland, Lanoraie, Quebec	2 00
Best clover seed, 1 bushel, A. Knight, Cataragui	6 00
2nd do do Henry Lutz, Stony Creek	4 00
3rd do do W. M. & J. C. Smith, Fairfield Plains	2 00
Best clover Alsike seed, half bushel, W. M. & J. C. Smith	6 00
2nd do do Frank Smith, Scotland	4 00
3rd do do Oliver Beaudry, St. Alexis	2 00
Best clover seed, white, Oliver Beaudry	6 00
2nd do do Frank Smith	4 00
3rd do do W. M. & J. C. Smith	2 00
Best flax seed, 1 bushel, E. C. Bennett, Clarksburg	6 00
2nd do do Charles Grant	4 00
3rd do do John Duff	2 00
Best Swedish turnip seed from transplanted bulbs, not less than 12 lbs., Oliver Beaudry	4 00
2nd do do do Antoine Lamarche, St. Esprit	3 00
3rd do do do D. M. Bernabe, St. Esprit	2 00
Best white Belgian field carrot seed, 12 lbs, Oliver Beaudry	4 00
2nd do do do David M. Bernabe	3 00
3rd do do do Antoine Lamarche	2 00
Best long mangel-wurtzel seed, 12 lbs., Oliver Beaudry	4 00
2nd do do do Clet. M. Bernabe, St. Esprit	3 00
3rd do do do Antoine Lamarche	2 00
Best yellow globe mangel-wurtzel seed 12 lbs., Oliver Beaudry	4 00
2nd do do do David M. Bernabe	3 00
3rd do do do Clet. M. Bernabe	2 00
Best tares, bushel of, Charles Grant	3 00
2nd do do A. Knight	2 00
Best millet, 1 bushel, Charles Grant	4 00
2nd do do W. M. & J. C. Smith	2 00
Best Hungarian grass seed, 1 bushel, W. M. & J. C. Smith	4 00
2nd do do do Charles Grant	2 00
Best cured tobacco leaf, growth of Canada, 10 lbs, Ovid Marion, St. Jacques	4 00
2nd do do do Arthur Marion, St. Jacques	3 00
3rd do do do Edward Freland	2 00
Best flax, scutched, 112 lbs., Oliver Beaudry	8 00
2nd do do do Antoine Lamarche	4 00
Best hemp, dressed, 112 lbs., Oliver Beaudry	8 00
Best half bushel mixed grass, named seed, for permanent pastures, accompanied by a statement based on experience, W. M. & J. C. Smith	6 00

This mixture consists of:—

6 quarts of Timothy seed.
4 " Red Clover seed.

STATEMENT.

4 quarts of Alsike Clover seed.
2 " White "

About 4 quarts sown per acre. It makes good pasture or hay, we have had a piece of land seed with this for three years and it has greatly improved each season.

Highly Commended.—Tares, Antoine Lamarche.

CLASS XLI.

325 ENTRIES.

FIELD ROOTS, ETC.

JUDGES.—R. L. Denison, Toronto; And. Hardy, Kilsythe.

Best Snowflake potatoes, bushel, James Ellis, Billing's Bridge	\$3 00
2nd do Wm. Watts, Merrickville	2 00
3rd do Francis Peck, Albury	1 00
Best Early Ohio, Francis Peck	3 00
2nd do Robert Currie, New Edinburgh	2 00
Best Pride of America, Francis Peck	3 00
Best Magnum Bonum, Francis Peck	3 00
Best Early Rose potatoes, bushel, James Ellis	3 00
2nd do Wm. Watts	2 00
3rd do J. J. Smyth, Billing's Bridge	1 00
Best Late Rose potatoes, bushel, George Lang, Ottawa	3 00
2nd do Francis Peck	2 00
3rd do James Greeves, Ottawa	1 00
Best Hebron potatoes, bushel, Wm. Watts	3 00
2nd do J. J. Smyth	2 00
3rd do Gilmour & Co., Kayubazua	1 00
Best Brownell's Beauty, bushel, Francis Peck	3 00
Best Brownell's Best, bushel, Francis Peck	3 00
2nd do Francis Peck	2 00
Best Breeze's Peerless, bushel, Francis Peck	3 00
Best White Star, Francis Peck	3 00
2nd do W. M. & J. C. Smith, Fairfield Plains	2 00
Best Burbank's Seedling, James Ellis	3 00
Best Dempsey potatoes, bushel, Francis Peck	3 00
Best Success, Francis Peck	3 00
Best White Elephant, A. F. Graham, Hawthorne	3 00
2nd do Francis Peck	2 00
3rd do George Lang	1 00
Best any other sort, bushel, James Ellis	3 00
nd do Gilmour & Co.	2 00
3rd do E. Bell, Archville	1 00
Best seedling potatoes, Francis Peck	3 00
2nd do E. Bell	2 00
3rd do Francis Peck	1 00
Best collection of field potatoes, peck of each sort, named, James Ellis	6 00
2nd do Francis Peck	4 00
3rd do A. F. Graham	2 00
Best eight roots Purple Swede turnips, Gilmore & Co.	3 00
2nd do Jas. Spratt, Billing's Bridge	2 00
3rd do Robert Hardman, Hardman's Bridge	1 00
Best eight roots Bronze Swede turnips, Thomas Clarke, Ottawa	3 00
2nd do Charles Scott, Melville Cross	2 00
Best eight roots Green Swede turnips, Charles Scott	3 00
2nd do Gabriel Dowler, Billing's Bridge	2 00
3rd do James Greeves	1 00
Best eight roots White Swede turnips, Charles Scott	3 00
Best eight roots White Globe turnips, Thomas Clarke	3 00
2nd do Charles Scott	2 00
Best eight roots Greystone turnips, Charles Scott	3 00
Best eight roots Yellow Aberdeen turnips, Charles Scott	3 00
Best four varieties turnips eight of each, Charles Scott	3 00
Best twelve roots red carrots, Charles Scott	3 00
2nd do Jas. Ellis	2 00
3rd do Wm. Evans, Montreal	1 00

Best twelve roots white or Belzian carrots, Jas. Ellis	\$3 00
2nd do Wm. Graham	2 00
3rd do Wm. Evans	1 00
Best eight roots, mangel wurtzel long root, John Pratt, Chelmsford	3 00
2nd do Jas. Yuill, Carleton Place	2 00
3rd do Wm. Pennick, Ilex	1 00
Best eight roots Red Globe mangel wurtzel, A. Wright, Ottawa	3 00
2nd do Wm. Evans	2 00
Best eight roots intermediate colored mangel wurtzel, Charles Scott	3 00
2nd do James Ellis	2 00
3rd do Wm. Evans	1 00
Best eight roots yellow globe mangel-wurtzel, John Pratt	3 00
2nd do Jas. Yuill	2 00
3rd do Arch. M. Kellar, Ottawa	1 00
Best eight roots long yellow mangel-wurtzel, Wm. Evans	3 00
Best roots intermediate yellow mangel-wurtzel, John Pratt	3 00
2nd do Jas. Yuill	2 00
3rd do Wm. Evans	1 00
Best eight roots kohlrabi, Charles Scott	3 00
2nd do Charles Scott	2 00
3rd do Wm. Pennick	1 00
Best eight roots white sugar beet, Charles Scott	3 00
2nd do A. S. Cowen, Bell's Corners	2 00
3rd do Alex. G. Wallace, North Gower	1 00
Best twelve roots parsnips, Charles Scott	3 00
2nd do A. S. Cowen	2 00
Best twelve roots chicory, Charles Scott	3 00
2nd do John Duff, Myrtle	2 00
Best two large squashes for cattle, Jas. Greeves	3 00
2nd do Geo. Whillans, Ottawa	2 00
Best two mammoth field pumpkins, Jas. Greeves	3 00
Best four common yellow field pumpkins, Jas. Greeves	3 00
2nd do A. F. Graham	2 00
For the best and most creditable assortment of field roots, any kind, Chas. Scott. Dominion Silver Medal	

DAIRY PRODUCE, ETC.

CLASS XLII.

150 ENTRIES.

DAIRY PRODUCTS, ETC.

JUDGES.—D. W. Macpherson, Lancaster; H. Bissell, Algonquin; Jas. Stewart, Renfrew.

The following prizes are offered by the Agriculture and Arts Association of Ontario, and the Dairymen's Association of Eastern and Western Ontario.

Best three firkins of butter, fitted for exportation, not less than fifty pounds in each firkin, made at any creamery or private dairy, working capacity not less than 100 cows' milk, exhibitors to furnish mode of manufacture, including breed and number of cows, description of factory, treatment of milk, quantity, brand, and make of salt used, and any other practical information that they may be able to afford, before being paid the amount of premium. For exportation.

1st prize (creamery), Chas. Snediker, Haysville	Dominion Gold Medal
2nd do Wm. Rutherford, Iroquois	\$20 00
1st prize (dairy), Wm. Graham, Smith's Falls	Dominion Gold Medal
2nd do Francis Ballantyne, Smith's Falls	20 00

Best firkin of butter not less than fifty pounds in shipping order, manufactured at any private dairy, or creamery, capacity and manufacture not over fifty cows. For exportation.

1st prize (dairy), Francis Ballantyne	Dominion Silver Medal and	\$20 00
2nd do Matthew Porteous, Vernon		15 00
3rd do Wm. Graham		10 00
4th do Wm. M. Kay, Madoc		5 00
1st prize (creamery), Chas. Snediker	Dominion Silver Medal and	20 00

Information to be furnished to the judges as in section 40.

Best Butter, not less than 28 pounds, in firkin, crocks or tubs, "for home use," "home consumption."

1st prize, Bernard McNamee, Warburton	\$15 00
2nd do Wm. Graham	10 00
3rd do Thomas Graham, Ilex	8 00
4th do Matthew Porteous	5 00

Best butter, not less than 10 pounds, in rolls, prints or pats, "table use," home consumption, known as five day butter.

1st prize, Harrietta Traveler, Ottawa	\$10 00
2nd do Ovide Marion, St. Jacques.	8 00
3rd do W. & R. Bell, Bell's Corners.	6 00
4th do James A. Hurn, Billing's Bridge	4 00

Three factory cheese (white), capacity of factory and manufacture of not less than the milk of 50 cows. Best cheese made during the first 15 days in August, 1884.

1st prize, Wm. Eager, South Mountain	Dominion Gold Medal
2nd do Henry O. Foster, Millerton	35 00
3rd do Thomas J. Dillon, Kenilworth	25 00
4th do John S. Drewry, Rylstone	15 00
5th do Robert Robinson, Tweed	10 00

STATEMENT.

Mode of manufacturing Prof. L. B. Arnold's Sweet Curd System. Number of cows' milk used, 300, breed, native, crossed with Ayrshire bulls, quantity, 70,000 pounds, salt, Liverpool. Factory filled.

WM. EAGER.

RYLSTONE, Nov. 6th, 1884.

To H. Wade, Esq., Toronto:—

DEAR SIR,—Yours of the 27th was duly in reply, I beg to state the cheese shown by me at Ottawa were made as follows:—Milk of two hundred cows, delivered at factory once per day, heated to eighty-six degrees Fahrenheit, extract enough to coagulate in twenty minutes, allowed to stand one hour from time of adding rennet, then cut lengthwise with perpendicular knife, then crosswise and lengthwise again, then work heating to ninety-six degrees, draw whey of sweet and pack curd on racks, keeping warm until ready to put through curd mill. Using hot iron test. Salt, two and a half pounds to one thousand pounds of milk, and let it remain covered up, keeping the curd warm for three hours before putting to press.

Yours truly,

JOHN S. DREWRY, *Cheese Maker.*

Mode of Manufacture, Etc.—I heat the milk as it is being weighed in to 86 degrees Fahrenheit, then put in rennet enough to have it cut in about 45 minutes, after which the curd is heated to 98 degrees, draw the whey when there is a slight degree of acid, and put the curd into the curd sink. When the curd gets a cheesy flavour, grind and salt it, using about three pounds salt to 100 pounds of curd. When salted, put to press for about 12 hours, when it is ready for the curing room, the temperature of which varies from 60 to 68 degrees. I would, however, prefer keeping the temperature at 72 degrees. This is the principle I usually follow, but, of course, have to be guided by the weather and condition of milk.

T. J. DILLON,

Kenilworth, Ontario.

Three factory cheese (colored), capacity of factory and manufacture of not less than 50 cows' milk. Best cheese made during the first 15 days in August, 1884.

1st prize, John S. Drewry	Dominion Gold Medal
2nd do Andrew Clancey, Big Springs	\$35 00
3rd do Thomas J. Dillon	25 00
4th do Forester & Gordanier, Morven	15 00
5th do E. W. Brenton, Foxboro	10 00

Best three dairy cheese, not less than 8 pounds.

1st prize, Jas. Callander, North Gower	12 00
2nd do Thomas Graham	8 00
3rd do Alexander G. Wallace	5 00

Best three Stilton cheese, not less than 8 pounds each.

1st prize, Jas. Liddle, jr., Dundas	12 00
2nd do Mrs. Eliza Parsons, Guelph	8 00
3rd do William Eager	5 00

Best three Gloucester or Wiltshire loaf or truckle cheese, not less than 8 pounds each.

1st prize, Robert Robinson	12 00
2nd do W. H. Thompson, Pittston	8 00
3rd do T. J. Thompson, Glenstewart	5 00

Best collection of butter tubs for shipping purposes.

1st prize, John McMaster, Kenmore	6 00
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Five cheese boxes, for shipping purposes.

1st prize, John M. Master	6 00
2nd do W. H. Thompson	4 00

Best outfit for manufacturing butter, Champion Cabinet Creamery Company, Morrisburg

Dominion Silver Medal.

EXTRAS

Illustrated Silver Medal. Churn—Wentman & Ward, London. Churn—George Moorhouse, Avonlea, Quebec. Combined milk-pail, stool and strainer—Ontario Milk Bucket Company, Toronto.

Diploma.—Set of patent creamers—George Burroughs, Ottawa. Milk protectors—George T. Barnhart, Ottawa. Two-crack churns—Kenneth McDonald, Ottawa.

CLASS XLIII.

60 ENTRIES.

SUGAR, BACON, ETC.

JUDGES.—J. D. Lutz, Stoney Creek; J. Cuppage, Orillia.

Best maple sugar, 15 lbs., cake, Ephraim Webster, Merrickville.....	\$5 00
2nd do do William Bernack, Elgin.....	3 00
3rd do do A. Knight, Cataraqui.....	2 00
Best maple sugar, 15 lbs., stirred, Ephraim Webster.....	5 00
2nd do do William Bernack.....	3 00
Best beet sugar, 15 lbs., A. DeJardin, Lille, France, per M. Dubois Et fils, Toronto, agents.....	Dominion Silver Medal.
Best maple syrup, 1 gallon, Ephraim Webster.....	3 00
2nd do do Alexander McKay, Monrovia.....	2 00
3rd do do William Bernack.....	1 00
Best side of cured bacon, Herman Thorbahn, Ottawa.....	4 00
2nd do do Thomas Kimpton, Ottawa.....	3 00
Best ham, cured, Herman Thorbahn.....	3 00
2nd do do Thomas Kimpton.....	2 00
Best meats and bacon, spiced and preserved, Thomas Kimpton.....	Dominion Silver Medal.

EXTRAS.

Highly Commended.—Bologna Sausages, Boneless Ham, Lard, Head Cheese, Brawn, Summer Sausages. Thomas Kempton, Ottawa.

CLASS XLIV.

20 ENTRIES.

HONEY AND APIARY SUPPLIES.

JUDGES.—Robert Lyon, Ottawa; James Barnum, Grafton.

Largest and best display of extracted honey in marketable condition, David Reay, Hudson, Que.....	\$10 00
Largest and best display of honey in the country in marketable condition, W. & R. Bell, Bell's Corners.....	10 00
Best honey in the comb, not less than 10 lbs., David Reay.....	8 00
2nd do do George Burroughs, Tallowfield.....	6 00
3rd do do W. & R. Bell.....	4 00
Best jar of extracted honey, David Reay.....	4 00
2nd do do George Burroughs.....	2 00
3rd do do A. Knight.....	1 00
Best bees wax not less than 10 lbs., David Reay.....	3 00
Best bee hive, David Reay.....	3 00
do honey in the comb, H. J. A. Simpson, Cataraqui.....	Highly Commended.

CLASS XLVI.

36 ENTRIES.

DOMESTIC WINES.

JUDGES.—Robert Lyon, Ottawa; James Barnum, Grafton.

All wines to be exhibited in a uniform manner and quantity, in the ordinary port bottle, known as the English wine bottle.

Professional and Commercial List.

Best half-dozen dry wines, Barré & Co., Montreal.....	\$6 00
Best half-dozen sweet wines, Barré & Co.....	6 00
Best half-dozen sparkling wines, Barré & Co.....	6 00
Best half-dozen Canada claret, Barré & Co.....	6 00

Best ginger ale, 6 bottles, R. Blackwood & Co., Montreal	Dominion Silver Medal
2nd do do McGibbon, McCallum, & Co., Montreal	\$2 00
Best soda water, 6 bottles, McGibbon, McCallum & Co	Dominion Silver Medal
2nd do do R. Blackwood & Co	2 00
Open to all professionals and amateurs. Best assortment of wines made from grapes of Canadian growth, Barré & Co.	Dominion Silver Medal.

General List. Professional and Commercial Winemakers excluded.

All wines to be from the hardy grape, and to be exhibited in a uniform manner and quantity, in the ordinary pint bottle, known as the English wine bottle.

Best three bottles, dry wine, white, J. D. Lutz, Stoney Creek	\$6 00
2nd do do Henry Lutz, Stoney Creek	3 00
Best three bottles, dry wine, red, Henry Lutz	6 00
2nd do do J. D. Lutz	3 00
Best three bottles, sweet wine, white, J. D. Lutz	4 00
2nd do do Henry Lutz	2 00
Best three bottles, sparkling wine, Henry Lutz	4 00
2nd do do J. D. Lutz	2 00
Best three bottles, any other sort of grape wine, Henry Lutz	4 00
2nd do do J. D. Lutz	2 00
Best three bottles, raspberry wine, J. D. Lutz	3 00
Best three bottles, cherry wine, J. D. Lutz	3 00
2nd do do Henry Lutz	2 00
Best three bottles, currant wine, J. D. Lutz	3 00
2nd do do Henry Lutz	2 00

EXTRAS.

Silver Medal.—Fruit Syrups and five varieties Mineral Waters, R. Arnoldi, Ottawa.

Diploma. Rhubarb Wine, James A. Hurn, Billing's Bridge. Mineral Waters, William Rodden, Plantagenet. Three bottles Bitters, St. Jean Baptiste. Three bottles Vernouth Wine.

HORTICULTURAL DEPARTMENT.

CLASS XLVI.

90 ENTRIES.

FRUIT, VEGETABLES, PLANTS AND FLOWERS.

Fruit Professional Nurserymen's List.

JUDGES.—Wm. Anderson, Hamilton; George A. Crosthwaite, Hamilton.

Best twenty varieties apples, correctly named, five of each, D. Vanduzen, Grimsby	\$10 00
2nd do do do A. M. Smith, St. Catharines	8 00
Best four varieties fall table apples named, five of each, A. M. Smith	3 00
2nd do do do D. Vanduzen	2 00
Best six varieties of fall cooking apples, named, five of each, A. M. Smith	3 00
2nd do do do D. Vanduzen	2 00
Best six varieties of winter table apples, named, five of each, D. Vanduzen	3 00
2nd do do do A. M. Smith	2 00
Best six varieties of winter cooking apples, named, five of each, D. Vanduzen	3 00
2nd do do do A. M. Smith	2 00
Best fifteen varieties pears, correctly named, five of each, John Holder, St. Catharines	10 00
2nd do do do D. Vanduzen	8 00
3rd do do do A. M. Smith	6 00
Best six varieties pears, correctly named, five of each, D. Vanduzen	5 00
2nd do do do A. M. Smith	3 00
Best six varieties plums, red or blue, correctly named, six of each, D. Vanduzen	5 00
2nd do do do A. M. Smith	3 00
Best six varieties plums, green or yellow, correctly named, six each, D. Vanduzen	5 00
2nd do do do A. M. Smith	3 00
Best twelve varieties grapes, grown in open air, two bunches each, correctly named, John Holder	8 00
2nd do do do R. M. Smith	6 00
3rd do do do D. Vanduzen	4 00
Best four varieties black grapes grown in open air, two bunches each, correctly named, Jno. Holder	3 00
2nd do do do D. Vanduzen	2 00

Best five Ribston Pippin, Francis Peck, Albany.....	\$2 00
2nd do A. Knight.....	1 00
Best five Alexander, A. Knight.....	2 00
2nd do H. J. A. Simpson.....	1 00
Best five Esopus Spitzenburg, H. J. Brown.....	2 00
2nd do Chas. Vanduzen.....	1 00
Best five Baldwin, Alex. Glass.....	2 50
2nd do Henry Lutz.....	2 00
3rd do Geo. Cairns.....	1 50
4th do Chas. Vanduzen.....	1 00
Best five Rhode Island Greening, H. J. Brown.....	2 50
2nd do R. Currie.....	2 00
3rd do Alex. Glass.....	1 50
4th do Chas. Vanduzen.....	1 00
Best five Wagner, Chas. Vanduzen.....	2 00
2nd do J. D. Lutz.....	1 00
Best five Yellow Bellflower, A. Knight.....	2 00
2nd do Francis Peck.....	1 00
Best five King of Tompkins Co., A. Knight.....	2 00
2nd do J. D. Lutz.....	1 00
Best five Talman's Sweet, H. J. A. Simpson.....	2 00
2nd do A. Knight.....	1 00
Best five Grimes' Golden, J. D. Lutz.....	2 00
2nd do Henry Lutz.....	1 00
Best five Seek-no-Further, Francis Peck.....	2 00
2nd do H. J. A. Simpson.....	1 00
Best five Roxbury Russet, H. J. Brown.....	2 50
2nd do G. J. Miller.....	2 00
3rd do Chas. Vanduzen.....	1 50
4th do Geo. Cairns.....	1 00
Best five Swaar, R. Currie.....	2 00
2nd do Alex. Glass.....	1 00
Best five Fallawater, Francis Peck.....	2 00
2nd do J. D. Lutz.....	1 00
Best five American Golden Russet, H. J. Brown.....	2 50
2nd do J. D. Lutz.....	2 00
3rd do A. Knight.....	1 50
4th do H. J. A. Simpson.....	1 00
Best five Swayzie Pomme Grise, H. J. Brown.....	2 50
2nd do G. J. Miller.....	2 00
3rd do Geo. Cairns.....	1 50
4th do J. D. Lutz.....	1 00
Best five Pomme Grise, H. J. A. Simpson.....	2 00
2nd do Geo. Cairns.....	1 00
Best five Northern Spy, A. Knight.....	2 50
2nd do J. D. Lutz.....	2 00
3rd do R. Currie.....	1 50
4th do H. J. Brown.....	1 00
Best five Jonathan, E. C. Fearnside.....	2 00
Best five Wealthy, H. J. A. Simpson.....	2 00
2nd do A. Knight.....	1 00
Best five Scott's Russet, A. Knight.....	2 00
2nd do N. J. A. Simpson.....	1 00
Best five Ben Davis, N. J. A. Simpson.....	2 00
2nd do A. Knight.....	1 00
Best five any other variety (winter apple) correctly named, T. H. Parker, Woodstock.....	2 00
2nd do H. J. Brown.....	1 00
Best five winter seedling apples, Robt. Kerr, Ironside.....	2 00
2nd do Johnston Brown, Ottawa.....	1 00
Best twelve varieties pears, five of each, Samuel Woodley, Hamilton.....	10 00
2nd do Wm. Anderson.....	8 00
3rd do G. J. Miller.....	6 00
4th do Alex. Glass.....	4 00
Best six varieties of pears, five of each, Samuel Woodley.....	4 00
2nd do Alex. Glass.....	2 00
Best five Kirtland, J. D. Lutz.....	2 00
2nd do Henry Lutz.....	1 00
Best five Clapp's Favourite, J. D. Lutz.....	2 00
2nd do Miss Strickland, Ottawa.....	1 00
Best five Annas d'Ete, Chas. Vanduzen.....	2 00
2nd do Alex. Glass.....	1 00
Best five Tyson, Chas. Vanduzen.....	2 00
Best five Bartlett's, R. Currie.....	2 50
2nd do Samuel Woodley.....	2 00
3rd do G. J. Miller.....	1 50
4th do Alex. Glass.....	1 00
Best five Seckel, G. J. Miller.....	2 00
2nd do Samuel Woodley.....	1 00

Best five Souvenir de Congress, Samuel Woodley	\$2 00
2nd do Alex. Glass	1 00
Best five Louise Bonne de Jersey, Wm. Anderson	2 50
2nd do Alex. Glass	2 00
3rd do Samuel Woodley	1 50
4th do J. D. Lutz	1 00
Best five Belle Lucrative, G. J. Miller	2 00
2nd do Alex. Glass	1 00
Best five Beurre Bose, G. J. Miller	2 00
2nd do Alex. Glass	1 00
Best five Beurre Hardy, Samuel Woodley	2 50
2nd do Alex. Glass	2 00
3rd do R. Cameron	1 50
Best five Goodale, Alex. Glass	2 00
2nd do G. J. Miller	1 00
Best five White Doyenne, G. J. Miller	2 00
2nd do I. B. Walker	1 00
Best five Sheldon, G. J. Miller	2 00
2nd do Chas. Vanduzen	1 00
Best five General Naylor, Samuel Woodley	2 00
Best five Flemish Beauty, Samuel Woodley	2 50
2nd do Wm. Anderson	2 00
3rd do G. J. Miller	1 50
4th do Alex. Glass	1 00
Best five Beurre Superfine, G. J. Miller	2 50
2nd do Alex. Glass	2 00
3rd do R. Cameron	1 50
4th do Samuel Woodley	1 00
Best five Duchesse d'a Pitmaston, Samuel Woodley	2 00
Best five Beurre Diel, Chas. Vanduzen	2 00
2nd do Samuel Woodley	1 00
Best five Beurre d'Anjou, G. J. Miller	2 50
2nd do Alex. Glass	2 00
3rd do H. J. Brown	1 50
4th do Samuel Woodley	1 00
Best five Beurre Clairgeau, Wm. Anderson	2 00
2nd do N. J. Brown	1 00
Best Duchesse d'Angouleme, C. Vanduzen	2 50
2nd do G. J. Miller	2 00
3rd do I. B. Walker	1 50
4th do Alex. Glass	1 00
Best five Doyenne Boussock, Alex. Glass	2 00
2nd do R. Cameron, St. Catharines	1 00
Best five Grey Doyenne, Samuel Woodley	2 00
2nd do Alex. Glass	1 00
Best five Swan's Orange, J. D. Lutz	2 00
2nd do Henry Lutz	1 00
Best five of any variety of fall pears, correctly named, R. Cameron	2 00
2nd do Samuel Woodley	1 00
Best five seedling pears, fall, R. Cameron	2 00
2nd do H. J. Brown	1 00
Best five Mount Vernon, Alex. Glass	2 00
2nd do I. B. Walker	1 00
Best five Glout Morceau, E. C. Fearnside, Hamilton	2 00
2nd do Alexander Glass	1 00
Best five Beurre Gris' d'Hiver Noveau, Alexander Glass	2 00
2nd do do R. Cameron	1 00
Best five Winter Nelis, E. C. Fearnside	2 50
2nd do George Cairns	2 00
3rd do H. J. Brown	1 50
4th do Samuel Woodley	1 00
Best five Vicar of Wakefield, Wm. Anderson	2 00
2nd do Samuel Woodley	1 00
Best five Lawrence, Alex. Glass	2 50
2nd do R. Cameron	2 00
3rd do G. J. Miller	1 50
4th do R. Currie	1 00
Best five of any other variety of winter pear, correctly named, Samuel Woodley	2 00
2nd do do E. C. Fearnside	1 00
Best five seedling pears, winter, J. D. Lutz	2 00
2nd do George Cairns	1 00

CLASS XLVIII.

FRUIT—GENERAL LIST CONTINUED.—PLUMS, PEACHES, GRAPES, ETC.

158 ENTRIES.

JUDGES.—P. E. Bucke, Ottawa; George McMillan, Dunbar.

Professional Nurserymen excluded. Competitors can make only one entry, and receive only one premium in each section.

Best six varieties plums, green or yellow, correctly named, 6 of each, E. C. Fearnside.....	\$4 00
Best six varieties plums, red or blue, correctly named, 6 of each, E. C. Fearnside.....	4 00
Best twelve Lombard, Alexander Glass.....	2 00
2nd do do R. Cameron.....	1 00
Best twelve Haling's superb, R. Cameron.....	2 00
Best twelve Coe's Golden Drop, Alex. Glass.....	2 00
Best twelve Smith's Orleans, Alex. Glass.....	2 00
2nd do do R. Cameron.....	1 00
Best twelve green gage, J. D. Lutz.....	2 00
Best twelve Imperial gage, E. C. Fearnside.....	2 00
Best twelve Pond's Seedling, J. D. Lutz.....	2 00
2nd do do E. C. Fearnside.....	1 00
Best twelve Glass Seedling, Alex. Glass.....	2 00
Best twelve Fellenburg, Alex. Glass.....	2 00
Best twelve General Hand, A. Knight.....	2 00
2nd do do Alex. Glass.....	1 00
Best twelve Jefferson, E. C. Fearnside.....	2 00
Best twelve Reine Claude de Bavay, J. D. Lutz.....	2 00
2nd do do Alex. Glass.....	1 00
Best twelve dessert plums, one variety, correctly named, Jas. Walker.....	2 00
Best twelve cooking plums, one variety, correctly named, E. C. Fearnside.....	2 00
2nd do do do Alex. Glass.....	1 00
Best twelve seedling plums, E. C. Fearnside.....	2 00
2nd do do J. D. Lutz.....	1 00
Best six varieties of peaches, correctly named, 6 of each, H. J. Brown.....	4 00
2nd do do do Geo. Cairns.....	2 00
3rd do do do R. Currie.....	1 00
Best six Early Crawford's, H. J. Brown.....	2 00
2nd do do G. J. Miller.....	1 00
Best six Late Crawford's, H. J. Brown.....	2 00
2nd do do George Cairns.....	1 00
Best six peaches, any other variety, correctly named, R. Currie.....	2 00
2nd do do do Geo. Cairns.....	1 00
Best six peaches, white flesh, any other kind, correctly named, G. J. Miller.....	2 00
2nd do do do Geo. Cairns.....	1 00
Best six peaches, yellow flesh, any other variety, correctly named, R. Currie.....	2 00
2nd do do do H. J. Brown.....	1 00
Best six seedling peaches, white flesh, H. J. Brown.....	2 00
2nd do do do R. Currie.....	1 00
Best six seedling peaches, yellow flesh, R. Currie.....	2 00
2nd do do do H. J. Brown.....	1 00
Best collection of grapes grown in open air, 12 varieties, two bunches of each, Wm. Anderson.....	8 00
2nd do do do do J. Graham, Edinburgh.....	6 00
3rd do do do do Samuel Woodley.....	4 00
Best six varieties of grapes (open air), two bunches of each, John Graham.....	5 00
2nd do do do do Wm. Anderson.....	3 00
3rd do do do do Samuel Woodley.....	2 00
Best two bunches Concord grapes, Wm. Anderson.....	2 00
2nd do do do J. Graham.....	1 00
Best two bunches Delaware, John Graham.....	2 00
2nd do do do Samuel Woodley.....	1 00
Best two bunches Moore's Early, Wm. Anderson.....	2 00
2nd do do do D. O'Connor, Ottawa.....	1 00
Best two bunches Diana, Wm. Anderson.....	2 00
2nd do do do Samuel Woodley.....	1 00
Best two bunches Creveling, Wm. Anderson.....	2 00
2nd do do do John Graham.....	1 00
Best two bunches Rogers' 4, John Graham.....	2 00
2nd do do do R. B. Whyte.....	1 00
Best two bunches Rogers' 3, Wm. Anderson.....	2 00
2nd do do do Samuel Woodley.....	1 00
Best two bunches Rogers' 15, Henry Inglis.....	2 00
2nd do do do Wm. Anderson.....	1 00
Best two bunches Rogers' 19, John Graham.....	2 00
2nd do do do Wm. Anderson.....	1 00
Best two bunches Rogers' 44, Wm. Anderson.....	2 00
2nd do do do John Graham.....	1 00

Best two bunches Salem, Wm. Anderson	\$2 00
2nd do Samuel Woodley	1 00
Best two bunches Eunuch, Wm. Anderson	2 00
2nd do Samuel Woodley	1 00
Best two bunches Hartford Prolific, John Graham	2 00
2nd do Samuel Woodley	1 00
Best two bunches Iona, John Graham	2 00
2nd do Wm. Anderson	1 00
Best two bunches Israella, Wm. Anderson	2 00
2nd do Samuel Woodley	1 00
Best two bunches Allen's Hybrid, Wm. Anderson	2 00
2nd do G. J. Miller	1 00
Best two bunches Champion, Henry Inglis	2 00
2nd do Wm. Anderson	1 00
Best two bunches Burnet, Wm. Anderson	2 00
2nd do P. E. Barker, Ottawa	1 00
Best two bunches Pocklington, Wm. Anderson	2 00
2nd do J. J. Smyth	1 00
Best two bunches Clinton, Johnston Brown	2 00
2nd do Wm. Anderson	1 00
Best two bunches Walter, Wm. Anderson	2 00
2nd do J. J. Smyth	1 00
Best two bunches Martha, Samuel Woodley	2 00
2nd do Wm. Anderson	1 00
Best two bunches any other variety, John Graham	2 00
2nd do Wm. Anderson	1 00
Best collection grapes, grown under glass, six varieties, one bunch each, correctly named, T. H. Parker	8 00
2nd do John Graham	4 00
Best two bunches black Hamburg, T. H. Parker, Woodstock	2 00
2nd do John Graham	1 00
Best two bunches black grapes, any other variety, T. H. Parker	3 00
2nd do do John Graham	2 00
3rd do do A. Wright, M.P., Ottawa	1 00
Best two bunches red grapes any other variety, R. Cameron	2 00
Best two bunches white grapes, grown under glass, correctly named, A. Wright, M. P.	3 00
2nd do do T. H. Parker	2 00
Best six quinces G. J. Miller	2 00
2nd do Wm. Anderson	1 00
Best green flesh melon, Jas. Greeves, Ottawa	2 00
2nd do George Cairns	1 00
Best red or scarlet flesh melon, Francis Peck, Albany	2 00
2nd do Jas. Greeves	1 00
Best water melon, Geo. Lang, Ottawa	2 00
2nd do Jas. Greeves	1 00
Best citron, Jas. Hickey, Ottawa	2 00
2nd do Jas. Greeves	1 00
Best quart uncultivated native wild plum, Francis Peck	2 00
Best three clusters uncultivated wild grape, J. D. Lutz	2 00
Best four varieties cultivated crab, 12 each, Donald McLaughlin	2 00
2nd do do E. C. Perkins	1 00
Largest and best collection cultivated crab, Francis Reed	4 00
2nd do do Charles Scott	2 00
Best dried or evaporated apples, half bushel, Francis Peck	2 00

COLLECTIONS.

Open to all, professional or amateur. Open also to Agricultural or Horticultural Societies, or to any one or any number of allied individuals desirous of competing, one individual only to pay entry fee. Twelfth rule not to apply.

APPLES.

Best collection of forty varieties, five of each, A. Knight	\$12 00
2nd do do R. Currie	8 00
3rd do do A. M. Smith	6 00

PEARS.

Best collection of twenty varieties, named, five of each, Samuel Woodley	\$10 00
2nd do do G. J. Miller	8 00
3rd do do Alex. Glass	5 00

PEACHES.

Best collection of twelve varieties, named, 6 of each, G. J. Miller	\$10 00
2nd do do H. J. Brown	8 00
3rd do do R. Currie	5 00

GRAPES—(Grown in the open air.)

Best collection of twenty varieties, named, two bunches of each,	Wm. Anderson	\$10 00
2nd do do do	Samuel Woodley	8 00
3rd do do do	John Graham	5 00

CLASS XLIX.

400 ENTRIES.

GARDEN VEGETABLES.

JUDGES.—E. C. Fearnside, Hamilton; John Pratt, Cobourg.

Best beans, French, quart,	Thos. Oliver Veale, Hamilton	\$2 00
2nd do	Robert Currie, New Edinburgh	1 50
3rd do	R. Cameron, St. Catharines	1 00
Best beets, long blood, six,	Charles Scott, Melville Cross	2 00
2nd do	Jas. Greeves	1 50
3rd do	Jas. Hickey, Ottawa	1 00
Best beets, turnip, six,	Chas. Scott	2 00
2nd do	Jas. Greeves	1 50
3rd do	Jas. Hickey	1 00
Best Brussels sprouts, six,	Jas. Greeves	2 00
2nd do	Robert Currie	1 50
3rd do	Jas. Hickey	1 00
Best cabbage, curled Savoy, three heads,	Jas. Greeves	2 00
Best cabbage, Drumhead Savoy, three heads,	Robt. Currie	2 00
2nd do	Jas. Hickey	1 50
3rd do	Jas. Greeves	1 00
Best cabbage, winter, three heads,	E. Bell, Archville	2 00
2nd do	Jas. Hickey	1 50
3rd do	Geo. Lang	1 00
Best cabbage, summer, three heads,	E. Bell	2 00
2nd do	David Stewart, Aylmer, Quebec	1 50
3rd do	Geo. Whillans, Ottawa	1 00
Best cabbage, Winningstadt, three heads,	E. Bell	2 00
2nd do	Jas. Hickey	1 50
3rd do	Geo. Whillans, Ottawa	1 00
Best cabbage, red, three heads,	Jas. Hickey	2 00
2nd do	Robt. Currie	1 50
3rd do	Jas. Greeves	1 00
Best Scotch Kale, three heads,	Jas. Greeves	2 00
2nd do	Robt. Currie	1 50
3rd do	Chas. Scott	1 00
Best cauliflower, three heads,	James Hickey	2 00
Best capsicums, twelve,	Thomas O. Veale	2 00
2nd do	J. G. Davis, Hamilton	1 50
3rd do	George Cairns, Virgil	1 00
Best capsicums, collection,	George Cairns	3 00
2nd do	James Greeves	2 00
3rd do	Robert Currie	1 00
Best carrot, early horn, twelve,	James Hickey	2 00
2nd do	James Greeves	1 50
3rd do	William Evans, Montreal	1 00
Best carrot, intermediate, twelve,	J. J. Smyth, Billing's Bridge	2 00
2nd do	John Graham	1 50
3rd do	James Greeves	1 00
Best carrot, long red, twelve,	D. McLauchlin, Cumming's Bridge	2 00
2nd do	Charles Scott	1 50
Best celery, white, six heads,	James Greeves	2 00
2nd do	John Graham	1 50
3rd do	James Hickey	1 00
Best celery, red, six heads,	James Greeves	2 00
2nd do	Robert Currie	1 50
Best twelve ears sweet corn, fit for the table,	Charles Grant, Thornbury	2 00
2nd do	James Hickey	1 50
3rd do	James Greeves	1 00
Best onions, red, twelve,	Alexander Glass	2 00
2nd do	George Rainboth	1 50
3rd do	George Cairns	1 00
Best onions, yellow, twelve,	George Cairns	2 00
2nd do	James Hickey	1 50
3rd do	John Graham	1 00
Best onions, white, twelve,	George Cairns	2 00
2nd do	David Stewart	1 50
3rd do	J. D. Lutz	1 00

Best onions, potato, twelve, A. Knight	\$2 00
Best onions, pickling, quart, Thomas O. Veale	2 00
2nd do George Cairns	1 00
Best leeks, six, Alexander Glass	2 00
2nd do R. Cameron	1 50
3rd do Robert Currie	1 00
Best three-egg plant, fruit purple, R. Cameron	2 00
2nd do Alexander Glass	1 50
3rd do James Greeves	1 00
Best parsnips, six, James Greeves	2 00
2nd do James Hickey	1 50
Best radish, winter, black, twelve, Charles Scott	2 00
2nd do Robert Currie	1 00
Best radish, other kinds, twelve, E. Bell	2 00
2nd do Charles Scott	1 00
Best salsify, twelve, J. G. Davis	2 00
2nd do Thomas O. Veale	1 50
3rd do James Greeves	1 00
Best table squashes, three varieties two of each, James Greeves	2 00
2nd do Robert Currie	1 50
3rd do James Hickey	1 00
Best turnips, white, table variety, twelve, Charles Scott	2 00
2nd do William Evans	1 50
3rd do James Hickey	1 00
Best twelve yellow turnips (table), Geo. Lang	2 00
2nd do Charles Scott	1 50
3rd do James Hickey	1 00
Best tomatoes, Trophy, twelve, E. Bell	2 00
2nd do R. Currie	1 50
3rd do George Cairns	1 00
Best tomatoes, Gen. Grant, twelve, George Cairns	2 00
Best tomatoes, Acme, twelve, J. D. Lutz	2 00
2nd do D. Stewart	1 00
Best Livingstone's Perfection, twelve, J. D. Lutz	2 00
2nd do John Graham	1 00
Best Cardinal, twelve, Thomas O. Veale	2 00
2nd do James Hickey	1 00
Best twelve tomatoes (large yellow), J. G. Davis	2 00
2nd do Thomas O. Veale	1 00
Best twelve any other variety tomatoes, not specified, Francis Peck	2 00
2nd do George Cairns	1 00
Best assorted collection tomatoes, Robert Currie	3 00
2nd do George Cairns	2 00
3rd do James Greeves	1 00
Best vegetable marrow, two, John Graham	2 00
2nd do James Greeves	1 00
Best four varieties garden potatoes, peck each, Francis Peck	3 00
2nd do James Greeves	2 00
Best collection sweet pot herbs, Robert Currie	3 00
2nd do James Greeves	2 00
3rd do Charles Scott	1 00
Best collection garden vegetables, largest and best, James Greeves	4 00

EXTRAS.

Silver Medal.—Collection Seeds, Flowers, etc., Pearce, Weld & Co., London.

Diploma and \$2.—Sixteen varieties Potatoes, James Regan, Ottawa.

Hopden Commended.—Two Perfect Sun Squashes and Two Red Pumpkins, James Hickey. Collection Onions, William Evans, Montreal.

CLASS L.

160 ENTRIES.

PLANTS AND CUT FLOWERS.

JUDGES.—R. B. Hether, Brockville; Robert Surtees, Ottawa.

Best greenhouse plants, twelve distinct varieties, N. Robertson, Ottawa	\$8 00
2nd do J. L. T. Jones, Ottawa	6 00
3rd do Charles Scott, Ottawa	4 00
Best greenhouse plants six distinct varieties, N. Robertson	3 00
2nd do M. N. Campbell, Ottawa	2 00
3rd do George Lang, Ottawa	1 00

Best foliage plants, 12 distinct varieties, N. Robertson	\$4 00
2nd do do Charles Scrim	2 00
3rd do do George Lang	1 00
Best Coleuses, 12 distinct varieties, N. Robertson	4 00
2nd do do Charles Scrim	3 00
3rd do do George Lang	2 00
Best cockscombs, in pots, Chas. Scott	2 00
Best Cacti, 12 varieties, N. Robertson	4 00
2nd do John Thomas	3 00
Best Caladiums, 6 varieties, N. Robertson	4 00
2nd do Chas. Scrim	3 00
Best fuchsias, 6 varieties, Geo. Lang	4 00
2nd do Chas. Scrim	3 00
Best ferns, foreign, 12 varieties, Chas. Scrim	5 00
2nd do N. Robertson	3 00
3rd do John Thomas	1 50
Best ferns, native, 12 varieties, Chas. Scott	1 00
Best begonias, flowering, 6 varieties, Chas. Scrim	4 00
2nd do Geo. Lang	3 00
3rd do John Thomas	1 00
Best begonias, tuberous rooted, 6 varieties, Chas. Scott	3 00
2nd do John Thomas	2 00
Best balsams, 6 varieties, Chas. Scrim	2 00
2nd do Geo. Lang	1 50
Hanging baskets, pair, Geo. Lang	3 00
2nd do John Thomas	2 00
3rd do Chas. Scrim	1 00
Best geraniums, single, 12 distinct varieties, Geo. Lang	4 00
2nd do John Thomas	3 00
Best geraniums, double, 6 distinct varieties, Geo. Lang	3 00
2nd do Chas. Scrim	2 00
Best display of plants, distinct from other entries (not less than 18 nor more than 24 var.) N. Robertson	8 00
2nd do do do Chas. Scrim	6 00
3rd do do do John Thomas	4 00

Cut Flowers.

Best two large vase bouquets (without frames), Geo. Lang	4 00
2nd do do Chas. Scrim	3 00
Best pair side table or fan bouquets, Geo. Lang	3 00
2nd do do Chas. Scott	2 00
Best hand bouquet, with paper, Chas. Scrim	3 00
2nd do Geo. Lang	2 00
3rd do John Graham	1 00
Best bouquet, everlastings, natural flowers, Thos. O. Veale	4 00
2nd do J. G. Davis	3 00
3rd do Chas. Scott	1 50
Best bouquet, wild flowers, Chas. Scott	3 00
2nd do Robt. Surtees	2 00
3rd do Geo. Lang	1 00
Best pansies, 18 varieties, Chas. Scott	2 00
2nd do Robt. Surtees	1 50
Best collection of annuals in bloom, distinct varieties, named, Chas. Scott	5 00
Best asters, 18 varieties, Chas. Scott	3 00
2nd do Robt. Surtees	2 00
Best ten-weeks stocks, 12 distinct varieties, Chas. Scott	2 50
Best marigolds, 18 varieties,	
2nd do Chas. Scott	1 50
3rd do John Thomas	1 00
Best collection of Bourbon, tea, and Noisette roses, named, Chas. Scrim	4 00
2nd do Geo. Lang	3 00
Best roses, 3, any other variety, Chas. Scrim	2 00
2nd do Geo. Lang	1 50
3rd do Chas. Scott	1 00
Best floral design for supper table, Chas. Scrim	4 00
2nd do Geo. Lang	3 00
Best verbenas, 12, named, Chas. Scott	2 00
Best collection verbenas, Robt. Surtees, Ottawa	3 00
2nd do Chas. Scott	2 00
3rd do John Thomas	1 00
Best petunias, double, 6 varieties, Chas. Scott	2 00
2nd do Geo. Lang	1 50
Best petunias, single, 6 varieties, Chas. Scott	2 00
2nd do Robt. Surtees	1 50
Best collection Phlox Drummondii, Chas. Scott	3 00
2nd do Robt. Surtees	2 00
3rd do Chas. Scrim	1 00

Best collection Dianthus,			
2nd do	Robt. Surtees.	.....	\$2 00
3rd do	Chas. Scott.	.....	1 00
Best phloxes, perennial, 12 distinct varieties,	Chas. Scott	.....	3 00
Best shrubs, hardy, 10 varieties, to include variegated or remarkable foliage, none awarded.			
2nd do	do	Chas. Scott.	1 50
Best hollyhocks, 12 distinct varieties,	Chas. Scott	.....	2 00
Best collection Gladiolus, none given.			
2nd do	John Graham.	.....	3 00
3rd do	Chas. Scott.	.....	2 00
Best zinnias, 18 distinct varieties, none given.			
2nd do	Robt. Surtees.	.....	1 50
Best collection of cut flowers, annuals, biennials, and perennials, largest and best display, correctly named,	Chas. Scott.	.....	8 00

PART 3.—*Rustic Work Not Filled with Plants.*

Best rustic stand, not less than three feet high,	Charles Scrim	4 00
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EXTRAS.

Dominion Silver Medal.—Display of florists' stock, Chas. Scrim.

Highly Commended.—Collection new and rare plants, N. Robertson. Specimens *Euphrasia splendens*, *Lycopodium* and Cacti, John Thomas.

ARTS AND MANUFACTURES' DEPARTMENT.

COMPETITION OPEN TO THE WORLD.

CLASS LI.

FINE ARTS—OILS.

Professional or Amateur (Original).

All views from nature, in any section of this or next class, to have attached the name of locality, or other necessary particulars, where view was obtained.

Best animals from life,	Paul Peel, London.	.....	\$10 00
Best flowers or fruit,	Jas. Griffiths, London	.....	8 00
2nd do	M. E. Dignam, London	.....	4 00
Best figure or historical subject,	Paul Peel.	.....	12 00
2nd do	Annie Heaslip, Toronto.	.....	8 00
3rd do	Mrs. C. C. Newell, Ottawa	.....	4 00
Best landscape, Canadian subject,	J. Wilson, Ottawa.	.....	10 00
2nd do	Mary Devlin, Ottawa.	.....	6 00
3rd do	Mary Devlin.	.....	3 00
Best landscape or marine painting, not Canadian subject,	J. Wilson, Ottawa.	.....	10 00
2nd do	do	Paul Peel.	5 00
Best portrait,	M. E. Dignam.	.....	9 00
2nd do	Paul Peel.	.....	6 00
Best still life, not flowers or fruit,	Jas. Griffiths.	.....	8 00

Amateur Lists—Oils (Copies.)

Best any subject,	M. E. Dignam.	.....	8 00
2nd do	Annie E. Woodburn, Ottawa.	.....	5 00
3rd do	Miss Strickland, Oshawa	.....	3 00
Best animals from life,	Mrs. Hyndman, Ottawa.	.....	8 00
2nd do	M. E. Dignam	.....	4 00
Best figure subject,	M. E. Dignam	.....	8 00
2nd do	Nellie Braden, Ottawa	.....	4 00
Best flowers or fruit,	Mrs. Hyndman.	.....	8 00
2nd do	Ida McGillivuddy, Toronto	.....	1 00
Best landscape or marine view, Canadian subject,	M. E. Dignam.	.....	8 00
2nd do	do	Miss Aggie E. Stickle, Sterling.	4 00
Best portrait,	M. E. Dignam	.....	8 00
Best still life, not flowers or fruit,	Miss Strickland.	.....	7 00

PART 2.—*Porcelain Decorations.*

Best collection of decorated porcelain, Canadian work, open to all,	Annie Heaslip, Toronto	10 00
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CLASS LII.

112 ENTRIES.

FINE ARTS IN WATER COLORS, CRAYONS, ETC.

JUDGES.—Judge Daniel, L'Original; Ed. Botteril, jr., Ottawa.

WATER COLORS.

Professional List—(Originals.)

Best animals from life, F. A. Verner, London, Eng.	\$5 00
Best flowers or fruit, Jas. Griffiths, London, Ontario	5 00
Best figure or historical subject, F. A. Verner	5 00
Best landscape, Canadian subject, F. A. Verner	6 00
Best landscape or marine view, not Canadian subject, J. Wilson, Ottawa	5 00
Best marine view, Canadian subject, F. A. Verner	6 00
2nd do do J. Wilson, Ottawa	4 00
Best portrait, Miss Aggie E. Stickle, Stirling	5 00
Best still life, not flowers or fruit, F. A. Verner	5 00

PART 2.—*Amateur List* (Originals.)

Best any subject, F. A. Wise, Ottawa	5 00
2nd do Lillie M. Odell, Ottawa	3 00
3rd do Charlotte Macqueen, New Edinburgh	2 00
Best flowers or fruit, John Hodgins, Ottawa	5 00
2nd do Mrs. C. C. Neville, Ottawa	3 00
Best landscape or marine view, Canadian subject, Mrs. Chamberlin, Ottawa	6 00
2nd do do F. A. Wise	4 00

PART 3.—*Amateur List*—(Copies.)

Best animals, grouped or single, Miss Strickland, Oshawa	4 00
2nd do Charlotte Macqueen	2 00
Best flowers or fruit, Nellie Braden, Ottawa	4 00
2nd do Miss Strickland	2 00
Best figure or historical subject, Mrs. Captain Gallinly, Ottawa	4 00
2nd do Annie E. Woodburn, Ottawa	2 00
Best landscape, Mrs. Chamberlin, Ottawa	4 00
Best marine view, Charlotte Macqueen	4 00
2nd do Miss O'Dell, Ottawa	2 00
Best still life, not flowers or fruit, Miss O'Dell	4 00

CRAYON, PENCIL, SEPIA, AND PEN AND INK SKETCH.

PART 1.—*Professional List*—(Originals.)

Best crayon, colored, James Griffiths	4 00
Best crayon, plain, James Griffiths	4 00
Best pen and ink sketch, James Griffiths	4 00
Best pencil drawing, James Griffiths	4 00
Best sepia drawing, James Griffiths	4 00

PART 2.—*Amateur List*—(Originals.)

Best crayon, colored, Mrs. Gooderson, Ottawa	4 00
Best crayon, plain, H. L. Wood, Ottawa	4 00
2nd do Mary Devlin, Ottawa	2 00
Best pencil drawing, C. B. Brown, Ottawa	4 00
2nd do F. A. Wise	2 00
Best pen and ink sketch, F. A. Wise	4 00
Best sepia drawing, Miss Strickland, Oshawa	4 00

PART 3.—*Amateur List*—(Copies.)

Best crayon, colored, Miss Strickland	4 00
Best crayon, plain, Miss Fannie Carter, Ottawa	4 00
2nd do H. L. Wood, Ottawa	2 00
Best pen and ink sketch, Mrs. C. C. Neville	4 00
2nd do Miss Strickland	2 00
Best pencil drawing, Miss Strickland	4 00
2nd do C. B. Brown	2 00
Best sepia drawing, Mrs. C. C. Neville	4 00

EXTRAS.

Dominion Silver Medal:—Collection of paintings of Canadian flowering plants and fungi, Mrs. Chamberlin, Ottawa; Exhibition of 17th Century, illumination to illustrate the Dominion Hymn of Canada, Mrs. Fred. Thomas Thomas, Ottawa.

CLISS III

37 ENTRIES.

PENMANSHIP, LANDSCAPE DRAWING, PHOTOGRAPHY, ENGRAVING, MAPS, STATUARY, ETC.

JUDGES.—Judge Daniels, L'Orignal; Ed. Botterill, jr., Ottawa.

PART I. *Porosipora, Astartes, Astartion, Murex, Pectunculus, Pectinaria, Lithographus, Etc.*

Best drawings, architectural, perspective and perspective view, Richard Hyndman, Ottawa.....	\$8.00
Best design and construction of a perspective drawing, J. Le Roy, Paris.....	Don. Silver Medal
Best penmanship, penmanship only, with or without ink pictures, C. A. Fleming.....	1.00
Best penmanship, ornamental (not pen and ink pictures), C. A. Fleming.....	4.00
2nd.....	do do

PART 2.—*Photography, Lithography, Engravings and Etchings, Printed Maps and Atlases.*

Best photograph portraits, collection of, in duplicate, one set colored, Mrs. P. G. Pilkie, Lindsay...	\$8 00
Best photograph portraits, collection of plain, Pittaway & Jarvis, Ottawa.....	Dominion Silver Medal
Best photograph landscapes and views, collection of, Killionan Bros., Littleton, N.Y., per F. P. Fitter, agent.....	6 00
Best photograph portrait, finished in oil, Annie Heaslip, Toronto.....	6 00
Best photograph portrait, finished in Indian ink, Mrs. P. G. Pilkie.....	5 00
Best photograph portrait, finished in water colors, Mrs. P. G. Pilkie, Lindsay.....	5 00
Best engraving on wood, with proof, Rolph, Smith & Co.....	
Best lithographic drawing, plain, Rolph, Smith & Co.....	
2nd do do Mrs. Chenier.....	2 00
Best lithographic drawing, colors printed, Rolph, Smith & Co.....	
2nd do do F. A. Edd, Ottawa.....	2 00
Best lithographic commercial work, in black or colors, Rolph, Smith & Co.....	

EXTRAS.

Dominion Gold Medal:—Christmas and New Year's card, wedding and invitation cards, die sinking and illuminating, original designs, lithographic pen work, design for wall paper, seals (wax and co-operate), lithographed labels in colors, Rolph, Smith & Co., and in lieu of cash prizes.

Dominion Bronze Medal :—Engraving and etchings, framed, Ed. Hickwell, Ottawa.

Highly Commended.—Farm Account Book. Francis Jennett. Richmond, Ont.

CLASS LIV.

47 ENTRIES.

NATURAL HISTORY AND MINERALOGY.

JUDGES.—Dr. P. H. Bryce, Toronto; Dr. Small, Ottawa.

BIBLIOGRAPHY.

Best collection of native, stuffed, with common and technical names attached and classified, John T. Coleman, Ottawa.....	\$10 00
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FISHES.

Best collection of native, stuffed or preserved in spirits, with common and technical names attached, John T. Coleman.....	8 00
Best collection of other countries, with common and technical names attached, John T. Coleman..	6 00

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Best collection of Canadian, named and classified,	Henry M. Ami, Ottawa\$6.00 and Diploma
2nd do do do	W. G. Kidd, Kingston	..... 4 00

18-11-19

Best collection of native, with common and technical names attached, and classified so as to show those injurious and those beneficial to agriculture and horticulture, Jas. Fletcher, Ottawa.....	10 00
Best collection of foreign, exclusive of species found in Canada, named, classified, Jas. Fletcher.....	8 00

MAMMALS AND REPTILES.

Best collection of native, stuffed or preserved in spirits, with common and technical names attached, and classified, John T. Coleman	10 00
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PREFACE.

Best collection of native, arranged in their natural families and named, R. B. Whyte, Ottawa	8 00
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MINERALOGY, ETC.

Each specimen must be labelled, giving name of specimen and locality where found.

Copper ores of Dominion, best collection of, W. G. Kidd, Kingston.....	\$8 00
Iron ores of the Dominion, best collection of, W. G. Kidd.....	8 00
Lead ores of Dominion, best collection of, H. P. Bonenell, Ottawa.....	8 00
Silver ores of the Dominion, best collection of, W. G. Kidd.....	8 00
Specimens, illustrating the mineralogy of Canada, best collection of, W. G. Kidd.....	15 00
2nd do do do do H. P. Bonenell.....	10 00
Mineral phosphates, display of Canadian, W. G. Kidd.....	Dominion Gold Medal
Collection of Canadian gems, W. G. Kidd.....	Dominion Silver Medal
Display of plumbago, Canadian, W. G. Kidd.....	Dominion Silver Medal

EXTRAS.

Dominion Silver Medal.—Philatelic and Humismatic collection, P. R. E. Campeau, Ottawa; Collection of native reptiles, A. B. Small, Ottawa; Joint exhibit of the Members, Ottawa, Field Naturalists' Club; Rock gypsum, and land plaster prepared for market, Gill & Co., Paris.

Diploma.—Collection of Canadian and land fresh water shells, Frank R. Latchford, Ottawa. Printed collection of Canadian butterflies, James Fletcher. Collection of Canadian birds' eggs, classified, W. L. Scott, Ottawa. Collection art metal work from British India, chased brass work from Benares, Bengal; steel inlaid work from Geyarat, Punjab, P. K. Hyndman. Stuffed spotted deer and doe's head with horns, J. Evans, Ottawa.

Highly Commended.—Largest Brazilian pebble in Canada, Dominion Spectacle Company, Montreal. Display of Canadian Mica and display of Canadian Asbestos, W. G. Kidd.

CLASS LV.

306 ENTRIES.

LADIES' WORK.

No imported work, or work done by professional lace makers, fancy goods' storekeepers, milliners, shirt makers, etc., or anything which has previously taken a prize at a Provincial Exhibition in Ontario, will be allowed to compete in classes 55 or 56.

Articles soiled or defaced by wear not eligible for competition. All specimens of plain sewing, tatting, crochet, embroidery, knitting, etc., to be new and unwashed.

JUDGES. Mrs. T. C. Bell, Blenheim; Mrs. Wm. McDougall, Ottawa; Miss Jessie McPherson, Metcalf.

Best painting on china, Miss Strickland, Oshawa.....	\$3 00
2nd do Annie Heaslip, Toronto.....	2 00
Best painting on terra cotta, Annie Heaslip.....	3 00
2nd do Miss Strickland.....	2 00
Best painting on silk or satin, water colors, Annie Heaslip.....	3 00
2nd do Miss Strickland.....	2 00
Best painting on silk or satin, oils, Lillie M. Odell, Ottawa.....	3 00
2nd do Lillie M. Odell.....	2 00
Best painting on Wedgwood ware, Annie Heaslip.....	3 00
2nd do Miss Strickland.....	2 00
Best painting on plush, Nellie M. King, Ottawa.....	3 00
2nd do Annie Heaslip.....	2 00
Extra recommended, Mrs. R. C. W. MacCuaig, Ottawa.....	1 00
Best painting on tapestry, Annie Heaslip.....	3 00
Best painting on glass, Mrs. C. C. Neville, Ottawa.....	3 00
2nd do Annie Heaslip.....	2 00
Best painting on jars, Miss Strickland.....	3 00
Best fancy work (any kind), by girls under 14 years of age, Miss Justina M. Harrison, Toronto.....	3 00
2nd do Ada Beament, Ottawa.....	2 00
Best applique work, Susan Rawdon, Brampton.....	3 00
2nd do Mrs. R. A. Harrison, Toronto.....	2 00
Best oriental embroidery (in silk), Miss Strickland.....	3 00
2nd do Mrs. M. Cole, Ottawa.....	2 00
Best hair jewellery, Miss M. Strickland, Oshawa.....	3 00
Best plaits for bonnets or hats, Canadian straw, Ida McGillicuddy, Toronto.....	2 00
2nd do Miss M. Strickland.....	1 50
Best crewel work (wool), Mrs. E. Gordon, Ottawa.....	2 00
2nd do Mrs. Birt Hinton, Amprior.....	1 00
Best tinsel work, Mrs. R. A. Harrison.....	3 00
2nd do F. F. Duncan, Ottawa.....	2 00
Best arresine work, with silk, Annie Heaslip.....	3 00
2nd do Lillie M. Odell.....	2 00
Best Berlin wool work for framing, Susan Rawdon.....	4 00
2nd do Miss N. Robbichon, Ottawa.....	3 00
Extra recommended, Mrs. Robinson Lyon, Ottawa.....	1 00

Best Berlin wool work (raised), Miss Strickland.....	\$4 00
2nd do Carrie L. Dean, Ottawa.....	3 00
Best slippers, pair, worsted work, Susan Rawdon.....	3 00
2nd do Miss M. Strickland.....	2 00
Best sofa cushion embroidery, Annie H. Ship.....	3 00
2nd do Lousa L. Stevens, Almonte.....	2 00
Best netting, fancy, Miss M. Strickland.....	3 00
2nd do Mrs. L. S. Mackintosh, Strathroy.....	2 00
Best mats, wool, Miss Etta Parker, Ottawa.....	3 00
2nd do Miss Strickland.....	2 00
Best teapot cosey, Mrs. R. A. Harrison.....	3 00
2nd do Susan Rawdon.....	2 00
Best chenille work, Mary Devlin.....	3 00
2nd do Miss M. Strickland.....	2 00
Extra recommended, F. F. Duncan, Ottawa.....	1 00
Best bead work on plush, Susan Rawdon.....	3 00
2nd do Ida McGillicuddy.....	2 00
Best carriage or sofa afghan, Mrs. W. H. Bell, Prescott.....	3 00
2nd do Mrs. W. H. Bell.....	2 00
Best crochet work (fancy wool), Mrs. Thomas Drummond, Kingston.....	3 00
2nd do M. Bruce, Toronto.....	2 00
Best braiding, Miss M. Strickland.....	3 09
2nd do Lousa L. Stevens.....	2 00
Best Queen Anne darning, Miss Etta Parker, Ottawa.....	3 00
2nd do Mrs. H. C. Odell, Ottawa.....	2 00
Best embroidery on cotton or muslin, Mrs. H. C. Odell.....	3 00
2nd do Miss M. Strickland.....	2 00
Best embroidery on silk or cloth, Mrs. E. Gordon.....	3 00
2nd do Miss C. Gagne, Ottawa.....	2 00
Best embroidery on flannel, Ida McGillicuddy.....	3 00
2nd do Susan Rawdon.....	2 00
Best guipure work, L. S. Mackintosh, Strathroy.....	3 00
2nd do Miss M. Strickland.....	2 00
Best tatting, Mrs. Thomas Drummond.....	2 00
2nd do Miss Georgina Watson, Bell's Corners.....	1 00
Best lace (point), Susan Rawdon.....	3 00
2nd do Mrs. E. Gordon.....	2 00
Extra recommended, Miss Nora Cunningham, Detroit, Mich.....	
Best lace (Honiton), Mrs. Moodie, Ottawa.....	3 00
2nd do Mrs. M. Carroll, Smith's Falls.....	2 00
Best lace (pillow or bobbin), Miss Georgina Watson.....	3 00
2nd do M. S. L. H. Phillips, Toronto.....	2 00
Best lace (macrame or twine), H. E. S. Aird, Ottawa.....	3 00
2nd do H. E. S. Aird.....	2 00
Best wax flowers (coloured), Miss C. Gagne.....	3 00
2nd do Carrie L. Dean.....	2 00
Best wax flowers, or design (white), Miss C. Gagne.....	2 00
Best wax work (autumnal leaves), Ida McGillicuddy.....	3 00
2nd do Carrie L. Dean.....	2 00
Best ornamental leather work, Mrs. Bennett, New Edinburgh.....	3 00
2nd do Mrs. C. C. Nevill.....	2 00
Best collection Berlin wool work (the work of one person), M. Bruce.....	Diploma
Best and greatest collection of ladies' work, ornamental (the work of one person), Mrs. M. Coles,	
.....	Dominion Silver Medal

EXTRAS.

Dominion Bronze Medal.—Natural flowers preserved, French decoration on china, French decoration on silk, L. H. Gaulett, Ottawa.

Highly Commended.—Embroidered mantel drapery, Mrs. E. Gordon. Bead work and Berlin wool work grained, Miss Annie R. Tracy, Ottawa. Pair cow's horns, painted, Indian work, cottage worked in silk, painting on tambourine, Mary Devlin. Frame of hair work and wreath of flowers, Marie Eugene Reard, Ottawa. Plaque oil painting (amateur), Miss Nellie M. King, Ottawa. Collection of buttons, no two alike, Miss Lou Goulding. Chenille and ribbon work, Mrs. M. Cole. Bead and wool work banner and chain, Mrs. M. Cole. Umbrella stand, imitation Terra Cotta, Mrs. Hyndman. Pen painting on velvet, Emily S. Tate, Cobourg. Italian work of the 12th Century, Mrs. Langford, Ottawa. Embroidered picture, inlaid, Mrs. D. A. Martin, Rochester, Ont. Embroidered table drape or cover, Mrs. Thomas Beament. Silk embroidery, Mrs. M. Cole.

Extra Prize.—Design in buttons, no two alike, and collection of buttons, \$1, Miss Ada Beament, Ottawa. Silk and chenille embroidery, oreline embroidery, \$3, Miss Myra Billings, Billing's Bridge.

CLASS LVI.

328 ENTRIES.

LADIES' WORK—USEFUL.

JUDGES.—Mrs. J. B. Aylesworth, Newburgh; Mrs. David Pelton, Burrett's Rapids; Mrs. Thos. E. Bell, Peterboro'.

Best machine sewing (family), F. T. Duncan, Ottawa	\$3 00
2nd do Miss Strickland, Oshawa	2 00
Best hand sewing, Mrs. Chamberlin, Ottawa	3 00
2nd do Miss M. Strickland, Oshawa	2 00
Best shirt, man's fine, unwashed, hand-made, Louis Paquette, Lanoraie, Que.	3 00
2nd do do Edward Freloud, Lanoraie, Que.	2 00
Best shirt, man's fine, unwashed, machine made, Mrs. A. Knight, Cataragui.	3 00
2nd do do G. A. Budd, Brockville.	2 00
Best shirt, man's flannel, hand-made, Miss M. Strickland	2 00
2nd do Mrs. W. N. Bell, Bell's Corners	1 00
Best darning, specimens on stockings, Ida McGillicuddy, Toronto	2 00
2nd do Mr. E. Gordon, Ottawa	1 00
Best counterpane, crochet, Lossa L. Stevens, Almonte	4 00
2nd do Mrs. Watts, Merrickville	3 00
Best counterpane, knitted, Mrs. Watts	4 00
2nd do Annie C. Vaughan, Carleton Place	3 00
Best quilt, patchwork, calico, Mrs. Henry Scott, Melville Cross	3 00
2nd do Mrs. M. Carroll, Smith's Falls	2 00
Best quilt, patchwork, cloth, Mrs. Henry Scott	3 00
2nd do Marie Eugene Redard, Ottawa	3 00
Best quilt, patchwork, silk, Mrs. D. A. Martin, Rochesterville	3 00
2nd do Mrs. Pennock, Elgin	2 00
Best quilt, white, quilted, Mrs. Pennock	3 00
2nd do Mrs. Charles Scott, Melville Cross	2 00
Best quilt, log cabin, Jennie Duff, Carleton Place	3 00
2nd do Mrs. A. Knight, Carleton Place	2 00
Best crazy patchwork, Mrs. S. H. Phillips, Toronto	3 00
2nd do Miss Leslie, Ottawa	2 00
Best gloves, two pairs, coarse, hand-made, Mrs. W. H. Bell, Prescott	2 00
2nd do Miss Georgina Watson, Bell's Corners	1 50
Best gloves, two pairs, fine, hand-made, Miss M. Strickland	2 00
2nd do Mrs. W. N. Bell	1 50
Best mitts, two pairs, coarse, hand-made, James Callander, North Gower	2 00
2nd do Mrs. W. N. Bell	1 50
Best mitts, two pairs, fine, hand-made, Mrs. F. St. Dennis, Ottawa	2 00
2nd do Miss M. Strickland	1 50
Best knitted stockings, two pairs, wool, hand-made, Mrs. Thomas Drummond, Kingston	3 00
2nd do Miss C. L. Paterson, Lachute, Que.	2 00
Best knitted socks, two pairs, wool, hand-made, Miss F. St. Dennis	2 00
2nd do James Callander	1 50
Best stockings or socks, two pairs, knitted by girls under 14 years, Mary Graham, Elmside	3 00
Best stockings, two pairs, fancy cotton, hand-made, Mrs. H. C. Odell, Ottawa	3 00
2nd do Mrs. Thomas Drummond	2 00
Best knitted shirt, man's, hand-made, Mrs. A. Lattimore, Lacelles	3 00
2nd do Miss C. L. Paterson	2 00
Best knitting, fancy wool, Mrs. Thos. Drummond	3 00
2nd do Katie O'Farrell, Ottawa	2 00
Best knitted Drawers, man's, hand-made, Miss M. Strickland	3 00
2nd do Mrs. W. M. Bell	2 09
Best tidy, crochet, cotton, Katie O'Farrell	2 00
2nd do Mrs. W. M. Bell	1 00
Best darned net, Miss M. E. Keltser, Toronto	2 00
Best collection of knitting, Mrs. H. Lattimore	Diploma
Best collection of crochet, H. E. S. Aird, Ottawa	Diploma
Best Lambrequin, Mrs. E. Gordon	2 00
Best table valance, Mrs. E. Gordon	2 00
Best fancy screen, pasted pictures, Miss A. R. Tracy, Ottawa	2 00
Best and greatest collection of ladies' work, useful—the work of one person, Mrs. R. A. Harrison, Toronto	Dominion Silver Medal

EXTRAS.

Diploma :—Raised silk work, collar, crochet, Lossa L. Stevens.

Highly Commended :—Pair silk socks and pair silk stockings, hand-made, Miss Myra Fillings. Loom woven counterpane, John Nesbitt, Fallowfield. Patchwork quilt, cashmere, Jennie Duff, Carleton. Plain counterpane, knitted, woollen, Annie C. Vaughan, Carleton Place. Down comfortable, Miss C. L. Paterson, Lachute, Que. Gent's crochet shawl, Mrs. M. Carroll, Smith's Falls. Night-dress bag, Mrs. Wm. Beatty, Ottawa. French delaine quilt, fancy cashmere quilt, merino quilt, Mrs. Francis Delosh, Ottawa. Rag mat, Miss Strickland.

ORIENTAL DISPLAY.

P. Ph. R. E. M. S. C. S. M.

The following were awarded diplomas:—G. H Percra & Bros., Colombo, Ceylon, oriental literature, etc., peacocks' feathers, etc.

7 ENTRIES.

Geo. S. Hull, M.D., Allahabad, N.W.P., and Oudh, India, carpets, glazed and coloured tiles.

4 ENTRIES.

India Carpet Mfg Co., hand-made Persian and Indian pile carpets, oriental design.

4 ENTRIES.

Dawee Sahi Chumbra Mull, Amditsur, Punjaub, India, shawl manufacturers, Indian jewellery, etc.

11 ENTRIES.

V. Phillip Perira, Colombo, Ceylon, plumbago and cinnamon.

2 ENTRIES.

Kandyan Art Work Association, Ceylon, collection of books and maps of Ceylon.

1 ENTRY.

Mrs. J. Ferguson, Colombo, Ceylon. native hand-made lace and fancy work.

8 ENTRIES.

John D. Fanseka, Miriswatta, Algombo District, Ceylon, painting and description of Ceylon, butterflies.

1 ENTRY.

W. L. H. Skeen & Co., Colombo, Ceylon, photographs of Ceylon views.

4 ENTRIES.

U. S. Farnando, Colombo, Ceylon, drugs, native, named.

164 ENTRIES.

David Damapurarathum, Colombo, Ceylon, plumbago elephant.

1 ENTRY.

W. E. Dawes, Jubbulpore, Central Provinces, India, native seeds and indigenous products of India.

6 ENTRIES.

Manager model farm, Cawnpore, N.W.P. and Oudh, India, native seeds, indigenous products, and native farm implements.

5 ENTRIES.

G. W. Lawin, Lucknow, N.W.P. and Oudh, India, photographs of different parts and cities of India.

1 ENTRY.

P. L. Tiouillo, Alexandria, Egypt, photographs and views of Alexandria before and after the bombardment of 1882, and of scenes generally of Egypt.

3 ENTRIES.

P. Sebah, Cairo, Egypt, photographs and views of Egypt.

6 ENTRIES.

Theramenes Dadiotis, Cairo, Egypt, 15 samples liquors.

15 ENTRIES.

G. & W. Leechman & Co., Colombo, Ceylon, matting, oils and tea.

9 ENTRIES.

Theo Henzenroder, Tananda, South Australia, grey opossum skins.

1 ENTRY.

E. P. Clarke, J. P., Inspector of Distilleries, for South Australia, sample Australian marble.

1 ENTRY.

CLASS LVII.

15 ENTRIES.

CHEMICAL MANUFACTURES AND PREPARATIONS.

OILS.

JUDGES.—P. H. Bryce, M.D., Toronto.

Best Neat's foot, half gallon, Queen City Oil Co., Toronto.

Best Paraffine, Queen City Oil Co.

Best petroleum, refined, half gallon, Queen City Oil Co."

2nd do do Pratt Mfg. Co., Ottawa

Finest display of petroleum products exhibited by one person or firm, Queen City Oil Co. Dominion Gold Medal.

EXTRAS.

Dominion Gold Medal :—Animal oils, and for prizes taken in other sections of this class, in lieu of cash, Queen City Oil Co.*Dominion Silver Medal* :—Collection of chemicals, North America Chemical Co., Goderich. Horse and and cattle food, Empire Horse and Cattle Food Co., Mitchell. Diamond Dies, Wells & Richardson, Montreal, Que.*Diploma* :—Washing blue, Church & McIlwraith, Ironside, Que. Wells & Richardson's Butter Color. Wells & Richardson, Diamond gold, silver, and bronze paint, Wells & Richardson.

CLASS LVIII.

MUSICAL INSTRUMENTS.

To be entered for exhibiton only. Ample space will be provided for exhibitors.

Case for or on any kind of instrument, Wm. Bell & Co., Guelph.

Melodeon, with one set of reeds, Wm. Bell & Co.

Melodeon, any other kind, Wm. Bell & Co.

Organ, cabinet or parlor..... { Wm. Bell & Co., Guelph.
W. R. Martin & Son, Uxbridge.
D. W. Karn & Co., Woodstock.
W. G. Workman, Ottawa.

Organ, church, with pipes, Wm. Bell & Co.

Organ, church, with reeds..... { Wm. Bell & Co.
D. W. Karn & Co.
W. G. Workman.

Piano, grand, R. S. Williams & Son per R. Williams, per R. M. Martin & Son, agents, Ottawa.

Piano, square, R. S. Williams & Son, per R. M. Martin & Sons, agents.

Piano, Cottage, R. S. Williams & Son, per R. M. Martin & Son, agents.

EXTRAS.

Wm. Bell & Co., 8 organs.

D. W. Karn & Co., organ.

CLASS LIX.

4 ENTRIES.

BUILDING MATERIALS, PAINTING, MARBLE WORKS, ETC.

JUDGES.—Robert Romaine, Ottawa; J. A. Bradley, Lansdowne.

EXTRAS.

Dominion Silver Medal :—Fine paper hangings, Wm. Howe, Ottawa. Assortment of Canadian manufacture of wall paper, Colin McArthur & Co., Montreal.

CLASS LX.

130 ENTRIES.

CABINET WARE AND OTHER WOOD, AND HAIR MANUFACTURES.

JUDGES. Sandford Fleming, Ottawa; A. A. Macdonald, Ottawa.

PART I. *Cabinet Ware.*

Best bedroom furniture, set of, London Furniture Mfg. Co., per Jacob Erratt, agent, Ottawa	
2nd do Robert E. Dale, Ottawa	\$6 00
Best book-case, London Furniture Mfg. Co., per Jacob Erratt, agent	
Best chair, easy for invalids, National Mfg. Co., Ottawa	4 00
Best coverings for drawing-room furniture, an assortment, Jacob Erratt, Ottawa	
2nd do do London Furniture Mfg. Co., per Jacob Erratt, agent	
Best drawing-room furniture, set of, Jacob Erratt	
2nd do do London Furniture Mfg. Co., per Jacob Erratt, agent	
Best sideboard, London Furniture Mfg. Co., per Jacob Erratt, agent	
Best Folding camp bed, National Mfg. Co.	2 00
2nd do do Latour Folding Furniture Co., per A. W. Lang, agent, Ottawa	1 00
Best hotel or house cot, National Mfg. Co.	2 00
Best table, folding, Latour Folding Furniture Co., per A. W. Long, agent	2 00
2nd do do National Mfg. Co.	1 00
Best chair, folding, National Mfg. Co.	2 00
2nd do do Latour Folding Furniture Co., per A. W. Lang, agent	1 00
Best Hammock, frame, International Tent and Awning Co., Ottawa	2 00
2nd do do Latour Folding Furniture Co., per A. W. Lang, agent	1 00
Best stove, with kit, National Mfg. Co.	2 00
2nd do do Latour Folding Furniture Co., per A. W. Lang, agent	1 00
Best stove, without kit, Latour Folding Furniture Co., per A. W. Lang, agent	2 00
2nd do do National Mfg. Co.	1 00
Best combination table and bed, National Mfg. Co.	2 00
Best flags, National Mfg. Co.	2 00
2nd do International Tent and Awning Co.	1 00
Best awnings, National Mfg. Co.	2 00
2nd do International Tent and Awning Co.	1 00
Best tarpaulins, National Mfg. Co.	2 00
2nd do International Tent and Awning Co.	1 00
Best street horse covers, National Mfg. Co.	2 00
2nd do International Tent and Awning Co.	1 00
Best tents, International Tent and Awning Co.	5 00
2nd do National Mfg. Co.	3 00

PART 2.—Joiners' Work and Machine Work.

Best rowing boat, T. B. Morrow, Ottawa	Diploma
Best washing machine, J. W. Connor, Ottawa	3 00
2nd do E. Pariseau, Montreal, Que.	1 00

EXTRAS.

Dominion Gold Medal.—General assortment of furniture, London Furniture Mfg. Co., per Jacob Erratt, agent.

Dominion Silver Medal.—Canoe handle and de-votable racket bats, Gymnastic implements, Wm. Peacock, Montreal, Que. General exhibit of tent awnings, etc., National Mfg. Co. Canoes, boats, window rollers and shades, cornice poles, etc., Peterboro' Canoe Co., per National Mfg. Co., agent.

Dominion Bronze Medal.—Automatic cradles, W. G. Worreman, Ottawa.

Diploma.—Wire spring mattress, G. Gale & Sons, Waterville, Que., per J. H. Gerham, agent, Ottawa.
Hood's Certificate.—Wire spring mattress, with iron bed combination, spring bed, G. Gale & Sons, per J. H. Gerham, agent. Assortment of cooper's stock, I. & T. Ballantyne, Ottawa, Ont.

CLASS LXI.

106 ENTRIES.

MACHINERY AND PARTS THEREOF, AND TOOLS.

JUDGES.—Robert Romaine, Ottawa; J. H. Bradley, Lansdowne.

PART 1.—Steam Engines, Hydraulic Machinery.

Best portable steam engine for agricultural purposes, not less than six-horse power, to be put in operation on the ground, John Abell, Woodbridge.

2nd do do John Abell	
3rd do do Haggart Bros. Mfg. Co., Brampton	\$10 00
Best pump, steam, R. H. Buchanan & Co., Montreal, Que.	4 00
Best steam engine governor, John Abell	4 00
2nd do do R. H. Buchanan & Co.	2 00
Best steam-gauge, R. H. Buchanan & Co.	4 00
Best water-wheel, John Lamb & Son, Ottawa	12 00

EXTRAS.

Dominion Gold Medal.—Compound portable engine, and in lieu of cash prizes, John Abell, Woodbridge.
Dominion Silver Medal.—Canvas, hose and couplings, assortment of brass cocks for water works, Chapman's valves and hydrants, R. H. Buchanan & Co., Montreal, Que.
Diploma.—Model of an English locomotive engine.

PART 2.—*Metal Working Machinery, and Machinists' Tools, etc.*

Best assortment of blacksmiths' tools, A. B. Jardine, Sons & Co., Hespeler.....	\$4 00
2nd do J. G. Bricker, Waterloo.....	2 00
Best assortment of drills, taps, dies and rimmers, R. H. Buchanan & Co., Montreal.....	4 00
2nd do A. B. Jardine, Sons & Co.....	2 00
Best assortment of emery wheels, Prescott Emery Wheel Co., Prescott.....	Silver Medal and 4 00
Best emery grinding machine, Prescott Emery Wheel Co.....	6 00
2nd do R. H. Buchanan & Co.....	4 00
Best machinists' tools for working in metals, best and largest display, R. H. Buchanan & Co.....	10 00
2nd do do J. G. Bricker.....	5 00
Best machinists' vice, R. H. Buchanan & Co.....	6 00
Best radial drill, A. B. Jardine, Sons & Co.....	6 00
2nd do J. G. Bricker.....	4 00
Best assortment of saws, circular, Montreal Saw Works.....	
Best saws, hand, including cross-cut, Montreal Saw Works.....	
Best collection of iron working machinery, A. B. Jardine, Sons & Co.....	Dominion Silver Medal and 6 00
Best one dozen chopping axes, Montreal Saw Works, and in lieu of cash, Montreal, Que. . Dom.	Gold Medal

EXTRAS.

Diploma.—Shock tier machine for filing small circulars, lath tying machine, Montreal Saw Works.

Highly Commended.—Cupale blowers and portable forges, R. H. Buchanan & Co., Montreal, Que.

PART 3.—*Wood-working Machinery.*

Best band-saw, Cant, Gourlay & Co., Galt.....	\$4 00
2nd do Curran & Co., Galt.....	2 00
Best collection of wood-working machinery, Cant, Gourlay & Co.....	Dominion Silver Medal and 6 00
Best jig saw, Cant, Gourlay & Co.....	4 00
Best mitreing machine, Ed. Hicknell, Ottawa.....	4 00
2nd do Cowan & Co.....	2 00
Best morticing machine, power, Cant, Gourlay & Co.....	6 00
2nd do Cowan & Co.....	4 00
Best moulding machine 4 heads, Cant, Gourlay & Co.....	6 00
Best moulding machine, 1 head, Cant, Gourlay & Co.....	4 00
Best re-sawing machine, Cant, Gourlay & Co.....	4 00
Best surface planer, double cylinder, Cant, Gourlay & Co.....	6 00
Best surface planer, single cylinder, Cant, Gourlay & Co.....	4 00
Best tennoning machine, Cowan & Co.....	4 00
Best turning lathe, Cant, Gourlay & Co.....	4 00
Best universal wood-worker, Cant, Gourlay & Co.....	6 00
Best planing and matching machine, double, Cant, Gourlay & Co.....	10 00
Best planing and matching machine single, Cowan & Co.....	6 00

EXTRAS.

Dominion Silver Medal:—Joiner or buggy planer, sand-papering machine for furniture, panel-rasing heads, dado-heads, adjustable-hangers, Cant, Gourlay & Co. Moulding machine, three heads, power feed rip saw, Cowan & Co.

Diploma:—Three portable fruit and vegetable evaporators, J. & H. Bartholemew, Vanassa.

PART 4.—*Mill and Factory Machinery and Miscellaneous Articles.*

Best bran duster, G. F. Smith Middlings Purifier Co., Stratford, per Rich. Sibley, agt., Ottawa....	\$4 00
Best ear coupling, railroad, Murray & Ritchie, Newcastle, N. B., per R. H. Buchanan, agt., Ottawa.....	4 00
2nd do Dr. J. Mullen, Rochester, Ont.....	2 00
Best assortment mill machinery, G. F. Smith Middlings Purifier Co., per Richard Sibley, agent.....	Dominion Silver Medal and 6 00
Best middlings purifier, G. F. Smith Middlings Purifier Co., per Rich. Sibley, agt.....	6 00
Best writing machine, American Writing Machine Co., New York, per A. J. Henderson, agt., Toronto.....	6 00
2nd do Remington Type Writer Co., per Holland Bros., agt., Ottawa.....	4 00

EXTRAS.

Dominion Silver Medal:—Centrifugal flour dressing machine, flour packer and dust collector, G. F. Smith Middlings Purifier Co., per Rich. Sibley, agent.

CLASS LXII.

34 ENTRIES.

SEWING MACHINES FOR EXHIBITION ONLY.

The prizes in this class have been discontinued, by request of the manufacturers.

Sewing machine, manufacturing ... { Wheeler and Wilson Mnfgr. Co., Toronto.
 { White Sewing Mach. Co., per R. M. Martin & Sons, agts., Ottawa.
 { Williams Mnfgr Co., Montreal, Quebec.
 { Singer Mnfgr. Co., New York, per A. B. Duncan, agt., Ottawa.

Sewing machine, family.....	Wheeler & Wilson Mnfg. Co.
	R. M. Wagner & Co., per R. M. Martin & Sons, agts.
	White Sewing Machine Co., per R. M. Martin & Sons, agts.
	Williams Mnfg. Co.
Sewing machine, button-hole.....	Singer Mnfg. Co., per A. B. Duncan, agt.
	Wheeler & Wilson Mnfg. Co.
	Williams Mnfg. Co.
	Singer Mnfg. Co., per A. B. Duncan, agt.
Sewing machine, embroidery.....	Singer Mnfg. Co., per A. B. Duncan, agt.
Sewing machine, single thread.....	Singer Mnfg. Co., per A. B. Duncan, agt.

EXTRAS.

Knitting machine, Creelman Bros., per R. W. Martin & Sons, agts.
 Carriage trimming machine, Singer Mnfg. Co., per A. B. Duncan, agt.
 Needle threader, G. W. Walker, Toronto.

CLAS S LXIII.

62 ENTRIES.

MECHANICAL METAL WORK (Miscellaneous.)

JUDGES.—Robert Romaine, Ottawa; J. A. Bradley, Lansdowne.

PART 1.—Hardware, Cutlery, Bells, Safes, Scales, etc.

Best fire-proof safes, Goldie & McCulloch, Galt.....	
2nd do Goldie & McCulloch.....	
Best malleable hardware, assortment, P. Kyle, Merrickville.....	\$8 00
Best refrigerator, J. Esmonde, Ottawa.....	6 00
Screws and bolts, assortment, R. H. Buchanan, Montreal, Que.....	4 00
Best show case, Dominion Show Case Manufacturing Co'y., Toronto.....	4 00
Best telegraph supplies, Ahern & Soper, Ottawa.....	4 00
Sad irons, assortment, A. Martel & Bro., Montreal.....	3 00

EXTRAS.

Dominion Gold Medal.—Goldie & McCulloch, in lieu of cash.

Dominion Silver Medal.—Electric supplies, Ahern & Soper. Display of china, crockery, glassware, lamps and fancy goods, L. Ashfield & Co., Ottawa.

Dominion Bronze Medal.—Map stands, James Browne, Toronto.

Diploma.—The Ahern instantaneous watchman's detector, Ahern & Soper. Perfect cinder sifter, Oshawa Cinder Sifter Co., Oshawa. Door, window and monumental plates, stencil plates, steel, brass and iron stamps and brands, Pitchard & Wingard, Ottawa. Beveling combination sad iron, A. Martel & Bro., Montreal, Que. Assortment malleable castings, P. Kyle, Merrickville. Map stands, Jas. Browne. Collection of bicycles and accessories, A. T. Lane, Montreal, Que. Display of china, crockery, glassware, lamps and fancy goods, L. Ashfield & Co. Revolving reel for displaying goods in show windows, M. Bellanger, Ottawa. Union pairer and corer, John M. Fisher, Montreal, Que., per A. L. Bernard, agent. Display of lamp goods, C. S. Shaw & Co., Ottawa. E. P. Gleason Manufacturing Co., per C. S. Shaw & Co., agents, and E. B. Schneider, per C. S. Shaw & Co., agents. Fret work, fret work clock, Lewis H. Thompson, Ottawa.

PART 2.—Gold, Tin and Coppersmith's Work, Locks, etc.

Best bank lock, combination, Edward C. Barber, Ottawa.....	\$4 00
Locksmith's work, best assortment, Edward C. Barber, Ottawa.....	4 00
Best mirror in frame, J. Wilson & Co., Ottawa.....	4 00
2nd do Ed. Hicknell, Ottawa.....	2 00

EXTRAS.

Diploma.—Cash box, with patent combination lock, Edward C. Barber.*Highly Commended*.—Pleter and fluter, T. W. Welch, Montreal, Que.

PART 4.—Instruments.

Best mathematical and engineering instruments, A. Aronsbergh & Co., Montreal, Que.....	10 00
Optical instruments, best assortment, A. Aronsbergh & Co.....	6 00

EXTRAS.

Dominion Bronze Medal.—Artificial limbs, surgical appliances, W. H. Swinbourne, Toronto.

Diploma.—Electrocurative appliances, A. Norman, Toronto. Assortment of spectacles and eye-glasses, L. K. Leow, New York. Artificial legs, E. S. Parrisau, Montreal, Que.

CLASS LXIV.

STOVES AND CASTINGS.

32 ENTRIES.

JUDGE.—Jas. Cleland, Meaford.

Best cooking range, portable, John Burns, Montreal, Que.	6 00
2nd do John Burns	4 00
Best cooking stove, for wood, Smart Mfg. Co'y., Brockville, per J. Esmond, agent	6 00
Best cooking stove, for coal, Smart Mfg. Co., per J. Esmond, agent	6 09
Enamelled hollow ware, best assortment, T. P. Tansey, Montreal, Que.	4 00
2nd do W. Buck, Brantford, per J. Esmond, agent	2 00
Best furniture for cooking stove, 1 set, Smart Mfg. Co., per J. Esmond	4 00
Best hall stove, for wood, Smart Mfg. Co., per J. Esmond, agent	4 00
Best hall stove, illuminated base burner, Wm. Buck, per J. Esmond, agent	4 00
Best parlor stove, for coal, Smart Mfg. Co., per J. Esmond, agent	4 00
Best parlor cooking stove, Smart Mfg. Co., per J. Esmond, agent	4 00
Best parlor grate, Smart Mfg. Co., per J. Esmond, agent	4 00
Stoves, ranges and hollow-ware, best and largest display, Smart Manufacturing Co., per J. Esmond, agent	Dominion Silver Medal.
Best gas stove, J. Esmond	4 00
Best coal oil stove, Wm. Buck, per J. Esmond, agent	4 00

EXTRAS.

Dominion Bronze Medal.—Universal cooking crock, John W. Fisher, Montreal, Que.

Diploma.—6 ft. wrought iron "N.P." Range; 4½ ft., wrought iron "N.P." Range, John Burns, Montreal, Que. The safety kettle and steamer. T. P. Stansey, agent, Montreal, Que. Brass fenders, coal qds, fireirons, etc., J. Esmond, Ottawa.

CLASS LXV.

SADDLE, HARNESS, AND TRUNKMAKERS' WORK, AND ENGINE HOSE AND BELTING.

44 ENTRIES.

JUDGES.—S. Backus, Chatham; J. A. Fraser, Milton.

PART 1.—Saddlery, etc.

Best collars, assortment of heavy, S. & H. Berbridge, Ottawa	\$4 00
Best collars, assortment of carriage, S. & H. Berbridge	4 00
Best engine hose and joints, 2¾ inches diameter, 50 feet of copper riveted, Robin & Sadler, Montreal, Que.	6 00
Best harness, set of double carriage, S. & H. Berbridge	6 00
2nd do Geo. A. Rudd, Brockville	4 00
Best harness, set of single carriage, S. & H. Berbridge	6 00
2nd do Geo. A. Rudd	4 00
Best harness, set of team, S. & H. Berbridge	6 00
2nd do Geo. A. Rudd	4 00
Best harness, set of cart, S. & H. Berbridge	4 00
Best heavy lumbermen's harness, S. & H. Berbridge	6 00
Best leather machine belting, an assortment, Robin & Sadler	6 00
Best saddle, lady's, S. & H. Berbridge	6 00
Best saddle, gentleman's, full quilted, S. & H. Berbridge	5 00
Best assortment of trunks, S. & H. Berbridge	6 00
Best assortment of valises and travelling bags, S. & H. Berbridge	4 00
Best assortment of whips, S. & H. Berbridge	4 00
Best assortment of whip thongs, S. & H. Berbridge	2 00

PART 2.—Saddle and Harness Stock.

Best harness, leather, two sides, Robin & Sadler	4 00
2nd do Geo. A. May, Ottawa	2 00
Best assortment of hames, carriages or gig, S. & H. Berbridge	4 00
Best assortment of hames, team or cart, S. & H. Berbridge	4 00
Best horse blankets, two pairs, S. & H. Berbridge	4 00
Best lace, leather, 30 lbs., Robin & Sadler	4 00
Best skirting for saddles, two sides, S. & H. Berbridge	4 00
2nd do Geo. May	1 00

EXTRAS.

Diploma.—Assortment carriage saddlery and trimmers' hardware, P. Kyle, Merrickville. Untrimmed carriage top and lined carriage top, Geo. A. Rudd. Display of leather, Geo. May. Display of harness, S. & H. Berbridge.

CLASS LXVI.

20 ENTRIES.

SHOE AND BOOT MAKERS' WORK AND MATERIAL.

JUDGES. C. Wilson, Woodstock; W. E. Brown, Ottawa.

PART 2. *Shoemakers' Tools and Stock.*

Best calfskins, one dozen, Geo. May, Ottawa	.....	\$4 00
Best cow, tuffed, two sides, Geo. May	.....	2 00
Best cow, pebbled, two sides, Geo. May	.....	2 00
Best kip, two skins, L. Bruthaupt, Berlin, per Geo. May, agent	.....	2 00
Best linings, six skins, russet, Geo. May	.....	2 00
Best sole leather, two sides, slaughter, L. Bruthaupt, per Geo. May, agent	.....	2 00
Best splits, two sides, Geo. May	.....	2 00
Best upper leather, two sides, Geo. May	.....	2 00
Best upper leather, grained, two sides, Geo. May	.....	2 00

CLASS LXVII.

50 ENTRIES.

WEARING APPAREL AND FURS, FLAX, HEMP AND COTTON GOODS.

PART 1. *Wearing Apparel.*

JUDGES. T. H. Parker, Woodstock; W. G. Roxburgh, Norwood.

Best hats, silk, Large & Co., Montreal, Que	.....	\$4 00
Best overcoat, of Canadian cloth, A. Mowat & Sons, Ottawa	.....	4 00
Best suit, boy's, A. Mowat & Sons	.....	5 00

PART 2. *Furs.*

Best set of ladies' furs, Canada mink, R. J. Devlin, Ottawa	.....	4 00
2nd do Geo. Peacock, Ottawa	.....	2 00
Best set of ladies' seal furs, Geo. Peacock	.....	6 00
2nd do R. J. Devlin	.....	4 00
Best set of ladies' lambskin furs, R. J. Devlin	.....	6 00
2nd do Geo. Peacock	.....	1 00
Best set of ladies' furs, any other kind, R. J. Devlin	.....	4 00
2nd do Geo. Peacock	.....	2 00
Best set of gentlemen's furs, R. J. Devlin	.....	6 00
2nd do Geo. Peacock	.....	4 00
Best collection of manufactured furs, R. J. Devlin	.....	Dominion Silver Medal
2nd do Geo. Peacock	.....	Diploma
Best assortment of fur sleigh robes, not less than three kinds, R. J. Devlin	.....	6 00
2nd do do Geo. Peacock	.....	4 00

PART 3. *Flax and Hemp Goods.*

(Articles exhibited under this head must be made from flax or hemp, the growth of Canada.)

Best bags, one dozen, Edward Ferland, Lanoraie, Que	.....	4 00
Best linen, unbleached, three pieces, Edward Ferland	.....	6 00

PART 4. — *Cotton Goods.*

Best assortment of cotton goods, manufactured in Canada, Kingston Cotton Manufacturing Company, Kingston	Dominion Silver Medal
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EXTRAS.

1st Dominion Silver Medal.—Assortment of corsets, Clinton E. Brush & Co., Toronto. Assortment of ladies', etc., corsets, hoop skirts, and bustles, Crompton Corset Co., Toronto, per T. J. Claxton & Co., Montreal, Que. Assortment of pull over hats, military helmets, head dress adapted to Canada, army cocked hats, water proof hats, Oxford College caps, willow body hats, theatrical head dress, military forage and society caps, band caps or chacots, Large & Co., Montreal, Que.

Dominion Bronze Medal.—Infants', children's, misses' and ladies' corsets, bustles, hoopskirts and panners, Ed. Arkroyd, Ottawa.

CLASS LXVIII.

90 ENTRIES.

WOOLLEN GOODS.

JUDGES. —Wm. E. Roxburgh, Norwood; John F. Morley, Waterloo.

PART 1.

Best blankets, white, 2 pairs, S. F. Willett, Chambly, Canton, Quebec	\$6 00
Best blankets, grey, 2 pairs, S. F. Willett.....	6 00
Best counterpane, woven, Jas. Callander, North Gower	3 00
2nd do Miss Charlotte Cook, North Gower	2 00
Best doeskins, assortment, 3 pieces, John Baird & Co., Almonte.....	6 00
Best Etottes, assortment, 3 pieces, S. F. Willett	6 00
Best Flannel, all wool, white and colored, 3 pieces, 40 yards, S. F. Willett	5 00
Best assortment flannels, of Canadian manufacture, S. F. Willett	Dominion Silver Medal
Best satinets, assortment, 3 pieces, S. F. Willett	6 00
Best tweeds, winter, assortment of 6 pieces, John Baird & Co.....	6 00
2nd do do S. F. Willett.....	4 00
Best tweeds, summer, assortment of 6 pieces, John Baird & Co	6 00
Best assortment of Canadian tweeds, John Baird & Co.....	Dominion Silver Medal
Best yarn, collection of, made from Canadian superfine wool, assortment of mixtures, 3 lbs. each,	
McCrae & Co., Guelph	Dominion Silver Medal
Best yarn, collection of, made from merino, or foreign wool, white, dyed and mixtures, 3 lbs. each,	
McCrae & Co.....	Dominion Silver Medal
Best yarn, collection of, combed, white, dyed, and mixtures, 3 lbs. each, McCrae & Co.....	Dominion Silver Medal

EXTRAS.

Highly Commended:—Ladies' all wool dress goods, S. F. Willett.PART 2.—*Knitted Goods.*

Best Cardigan jackets 1 dozen, McCrae & Co, Guelph.....	3 00
Best drawers and shirts, plain, half dozen of each, McCrae & Co.....	4 00
Best drawers and shirts, ribbed, half dozen of each, McCrae & Co.....	4 00
Best half hose, assortment, 1 dozen, McCrae & Co.....	3 00
2nd do do McCrae & Co.....	2 00
Best hose, ladies' and misses', plain and ribbed, assortment, half dozen of each, McCrae & Co	3 00

PART 3.—*Carpets, etc., Canadian Manufacture.*

Best carpet, stair, 3 pieces, Jas. Callander, North Gower	6 00
Best rag carpet, Wm. Pennock, Elgin.....	3 00
2nd do Jas. Callander.....	2 00
Best rag mats, Kittie Merrifield, Mount Sherwood.....	3 00
2nd do Marrietta Traveller, Ottawa.....	2 00

PART 4.—*Domestic Woollens from Home Spun Yarn.*

Best cloth, full'd, farmers' make, piece not less than 20 yards, Wm. Pennock, Elgin.....	4 00
2nd do do do Jas. Dingwall, Williamstown	2 00
Best flannel, plain, white, not factory made, Wm. Pennock.....	4 00
2nd do do Edward Ferland, Lanoraie, Quebec	2 00
Best flannel plaid, not factory made, Wm. Pennock.....	4 00
2nd do do Miss Charlotte Cook, North Gower.....	2 00
Best flannel union, not factory made, Miss Charlotte Cook	4 00
2nd do do Wm. Pennock	2 00
Best carpet, all wool, farmers' make, Ephraim Webster, Merrickville	4 00
2nd do do Jas. Wilson, Manotick.....	2 00
Best yarn, white and dyed, not factory made, Mrs. W. H. Bell, Prescott.....	2 00
2nd do do Ovide Marion, St. Jacques, L'Achigan, Quebec.....	1 00
Best woollen shawls, home made, Ovide Marion.....	3 00
2nd do do Alex. McKay, Morewood	2 00
Best blankets, home made, John Nesbitt, Fallowfield	3 00
2nd do do Jas. Callander, North Gower.....	2 00

EXTRAS.

Highly Commended:—Collection woollen rugs, Mrs. R. W. Ross, Guelph.

CLASS LXX.

70 ENTRIES.

GROCERIES AND PROVISIONS.

JUDGES.—Wm. E. Roxburgh, Norwood; J. Cuppage, Orillia; J. D. Lutz, Stony Creek.

Best barley, pearl, 25 lbs., Fish & Ireland, Lachute Mills, Que.	\$3 00
Best barley, pot, 25 lbs., Fish & Ireland	3 00
Best barley flour, Fish & Ireland	3 00
Best biscuits, collection of, Christie, Brown & Co., Toronto	Diploma and \$6.00
Best baking powder, sample of, J. J. Duffy, Montreal, Que.	Dominion Silver Medal
Best buckwheat flour, 25 lbs., Louis L'apette, Lacombe, Que.	3 00
2nd do do Edward Ferland, Lacombe, Que.	2 00
Best plums, dried, 4 quarts, J. D. Lutz, Stony Creek	2 00
Best raspberries, dried, 2 quarts, Canada Soup Co., Oakville	2 00
2nd do do J. D. Lutz	1 00
Best blackberries, dried, 2 quarts, Francis Peck, Albany	2 00
2nd do do J. D. Lutz	1 00
Best cherries, dried, pitted, 2 quarts, J. D. Lutz	2 00
Best currants, dried, 2 quarts, J. D. Lutz	2 00
Best jellies, 3 jars or pots, made up by private persons, for home use, J. D. Lutz	3 00
2nd do do do do Henry Lutz	2 00
Best preserves, 3 jars, made up by private persons, for home use, J. D. Lutz	3 00
Best fruits and vegetables, evaporated, assortment of, Canada Soup Co. Note by Judges: "Of Special Merit."	Dominion Silver Medal in lieu of cash
Best canned and potted meats, made in factories for sale, W. Clark, Montreal, Que., "Highly Commended"	Dominion Silver Medal
Best largest and best display of all kinds of canned goods, W. Clark, "Highly Commended."	Dominion Silver Medal
Best coffee and spices, assortment, J. J. Duffy & Co.	4 00
Best chicory, 20 lbs., prepared, J. J. Duffy & Co.	3 00
Best Indian corn meal, 25 lbs., Edward Ferland	3 00
Best salt, 1 barrel, coarse Canadian, North American Chemical Co., Goderich	4 00
Best salt, 1 barrel fine Canadian, North American Chemical Co.	4 00
Best salt, 30 lbs., table or dairy, Canadian, North American Chemical Co.	3 00
Best salt, dairy, in sacks, North American Chemical Co.	Dominion Silver Medal
Tobacco, smoking, best assortment, Arthur Marion, St. Jacques L'Achigan, Que.	4 00
Best spring wheat flour, Ouide Marion, St. Jacques L'Achigan, Que.	4 00

EXTRAS.

Dominion Silver Medal :—Baravena milk food in tins, patent prepared barley, patent prepared groats, dessicated wheat, dessicated barley, dessicated rye, rolled oats, granulated wheat, dessicated samples, whole wheat meal, rolled barley, Fish & Ireland, Lachute Mills, Que. Johnston's Fluid Beef, Johnston's Dog Cakes, Johnston's Fluid Beef Co., Montreal, Que.

Diploma :—Patent prepared pea flour, Fish & Ireland, Lachute Mills, Que; Self-raising flour, Cook's Baking Powder, Auguste Donaldson, Ottawa; Pea mace, mustard, J. J. Duffy & Co., Montreal, Que.; Display of Pearlina, James Pyles & Son, New York, U. S.

CLASS LXX.

25 ENTRIES.

ESSAYS.

JUDGES.—John I. Hobson, Mosboro'; Charles Drury, M.P.P., Crown Hill; A. Blue, Toronto.

On the profit of breeding, feeding and fattening beef cattle for the market, founded on practical experience, Thos. Shaw, Stock Journal Co., Hamilton	30 00
2nd do J. Campbell, Jr., Woodville	20 00
For the best and most speedy method of destroying thistles, David Nicol, Cataraqui	15 00
2nd do Wm. Riddell, Cobourg	10 00
For the best and most speedy method of destroying quack grass, David Nicol, Cataraqui	15 00
2nd do W. Riddell, Cobourg	10 00

RESULTS of the Grand Dominion and Thirty-Ninth Provincial Exhibition of 1884, showing the amount offered in Prizes, the Amount awarded, and the Number of Entries in 1884, 1883, 1882, 1881 and 1880.

CLASSES.	Amount offered 1884.	Amount awarded 1884.	Number of Entries Ottawa, 1884.	Number of Entries Guelph, 1883.	Number of Entries Kingston, 1882.	Number of Entries London, 1881.	Number of Entries Hamilton, 1880.
Thorough-bred Horses	234 00	124 00	14	64	6	46	50
Roadster Horses	443 00	421 00	125	170	76	200	196
Carriage Horses	547 00	486 00	107	215	142	245	221
Agricultural Horses (exclusive of pure Clydesdales, Percherons and Suffolks)	383 00	337 00	80	215	59	149	148
Heavy Draught Horses (imported and bred from pure Heavy Draught stock)	427 00	379 00	64	161	40		
Heavy Draught Horses, grade, Canadian bred	121 00	71 00	11	40			
Heavy Draught Suffolk Horses	84 00	54 00	4	10	4		
Heavy Draught Perfection Horses	114 00	78 00	24	27	21		
Durham cattle	536 00	536 00	160	221	137	171	134
Hereford cattle	403 00	363 00	50	77	76	62	46
Devon cattle	283 00	253 00	42	75	56	73	42
Ayrshire cattle	406 00	106 00	106	111	90	104	103
Galloway cattle	403 00	347 00	34	68	43	37	37
Angus or Polled Aberdeen cattle	403 00	315 00	43	36	27	6	
Jersey or Alderney cattle	403 00	395 00	82	79	59	51	23
Holstein cattle	285 00	152 00	20	24			
Grade cattle	220 00	177 00	34	90	52	30	29
Fat and Working cattle (any breed)	125 00	80 00	18	57	40	62	46
Cotswold sheep	231 00	234 00	27	89	49	153	155
Leicester sheep	241 00	205 00	36	190	75	184	204
Lincoln sheep	150 00	140 00	19	114	53	143	94
Southdown sheep	243 00	243 00	35	155	80	107	136
Shropshire Devon sheep	243 00	243 00	82	157	45	55	60
Hampshire and Oxfordshire Devon sheep	148 00	148 00	18	51			
Merino sheep	127 00	127 00	29	55	32	26	
Fat sheep	45 00	40 00	11	57	20	36	26
Berkshire pigs	260 00	260 00	63	144	92	126	131
Suffolk pigs	261 00	261 00	63	130	115	108	141
Poland China pigs	190 00	190 00	44	47	18	57	
Essex pigs	190 00	190 00	22	68	50	50	76
Yorkshire and other large breed pigs	264 00	258 00	76	59	67	48	59
Poultry, etc.	270 00	159 00	106	201	226	319	417
Chickens, ducks, etc., 1881, Pigeons, Rabbits	241 50	100 00		75	162	313	404
Agricultural Implements (Exhibition only)	297 00	230 00	175	152	96	160	141
Agricultural Implements	381 00	296 00	100	188	60	195	152
Carriages and sleighs, and parts thereof	187 00	200 00	167	156	196	160	150
Agricultural tools and implements (chiefly for hand use)	436 00	418 00	43	85	16	100	77
Field grains, hops, etc.			268	354	324	319	381

Small field seeds, flax, hemp, &c	182 00	152 00	100	70	90	85	113
Field roots, &c	254 00	204 00	325	375	306	416	375
Dairy products, &c	521 00	437 00	150	938	155	172	257
Sugar, bacon, &c	67 00	37 00	60	25	10 1	44	45
Honey and Apitay supplies	77 00	51 00	20	42	21 4		
Domestic wines	105 00	83 00	36	35	33	42	62
Fruit (Professional Nurseymen's List)	200 00	170 00	90	36	35	61	80
Fruit, general list (apples and pears)	384 00	368 00	900	1400	1306	1283	1985
Fruit, general list (plums, peaches, grapes, &c.)	430 00	327 00	458	815	437	432	943
Garden vegetables	213 00	185 00	400	500	486	543	611
Plants and cut flowers	339 50	213 50	160	256		312	380
Fine arts (olls)	255 00	192 00	70	188	131	185	191
Fine arts (water colours, crayons, &c)	276 00	179 00	112	234	237	288	361
Pennmanship, linear drawing, photography, &c	233 00	153 00	37	46	30	69	75
Natural history and mineralogy	265 00	121 00	47	53	40	45	54
Ladies' work (ornamental)	282 00	208 00	306	532	512	311	443
Ladies' work (useful)	136 50	125 00	328	340	285	261	216
Chemical manufactures and preparations	92 00	4 00	15	30	12	35	39
Machinery and parts thereof and tools	753 00	211 00	106	100	50	97	135
Printing, book binding, paper, &c						20	33
Musical instruments			43	23	30	45	19
Building materials, painting, work in marble, &c	204 00		4	20	15	33	50
Cabinet ware and other wood and hair manufactures	333 00	33 00	130	70	86	84	86
Sewing machines (for exhibition only)			34	60	15	31	48
Mechanical metal work (miscellaneous)	304 00	117 00	62	75	50	66	70
Stoves and castings	191 00	52 00	32	67	50	89	150
Saddle, harness and trunkmakers' work, belting and engine hose	215 00	110 00	44	33	30	26	50
Shoe and bootmaker's work and material	179 00	20 00	20	10	32	32	40
Wearing apparel and furs, flax, hemp and cotton goods	229 00	69 00	50	34	75	36	71
Woollen goods	213 00	131 00	90	162	95	103	139
Groceries and provisions	227 00	72 00	70	30	55	66	72
Essays	150 00	100 00	25	19	9		
Thorley Horse and Cattle Food Co., special prize for herd of Durham cattle	50 00	50 00	8				
Empire Horse and Cattle Food Co., special prize for herd of Durham cattle	60 00	60 00	6				
<i>Farmers' Advocate Annual</i> , special prize for fall, spring and winter wheat	25 00	25 00	9	48	4		
Dominion special prize, four Durham calves	40 00	40 00	3	5	2		
Prince of Wales annual special prize	80 00	80 00	11		11		
Dominion special prize, cow any breed for milking purposes		25 00	24	2	23		
Extra animals			150		321		
Manitoba Exhibit			217				
Oriental Exhibit	1420 00	1830 00					
Medals (for Exhibition)	100 00	100 00					
Medals (for prize farms)					21		
Muskoka Exhibit			114				
Totals	20240 50	15281 50	7350	11004	7915	9385	11272

FINANCIAL RESULTS.—The total amount received for members' fees, booths, stables, cattle, sheep, pigs, poultry, prize grants, licenses and admission fees was \$11,867 93, against \$13,170 41 in Guelph, in 1883; \$9,026 in Kingston, in 1882; \$20,029 26 in London in 1881, and \$13,960 in Hamilton in 1880.

COMPARATIVE TABLE, showing the Progress of the Provincial Exhibition since its commencement in 1846.

YEAR.	PLACES OF EXHIBITION.	Total amount offered in Prizes.	Total number of entries.	Total amount awarded.
		\$ c.		\$ c.
1846	Toronto...	1600 00	1150	1100 00
1847	Hamilton...	3000 00	1600	2400 00
1848	Cobourg...	3100 00	1500	2300 00
1849	Kingston...	5600 00	1429	2800 00
1850	Niagara...	6106 60	1638	3400 00
1851	Brockville...	5017 85	1466	3223 75
1852	Toronto...	5916 95	4048	4913 00
1853	Hamilton...	6410 15	2820	5293 25
1854	London...	7176 10	2933	5427 50
1855	Cobourg...	9216 30	3677	6941 70
1856	Kingston...	9238 00	3791	6799 50
1857	Brantford...	10071 40	4337	8136 00
1858	Toronto...	10700 59	5572	9215 00
1859	Kingston...	10513 00	4830	8067 50
1860	Hamilton...	15015 50	7532	12900 00
1861	London...	12031 00	6242	10188 00
1862	Toronto...	12236 00	6319	10722 00
1863	Kingston...	11866 00	4756	9166 00
1864	Hamilton...	12559 50	6392	10304 25
1865	London...	13434 00	7221	11036 75
1866	Toronto...	12712 00	6279	10288 50
1867	Kingston...	12731 00	4825	9311 50
1868	Hamilton...	13304 50	6620	11120 00
1869	London...	13428 00	7649	11459 50
1870	Toronto...	14110 00	6847	12441 70
1871	Kingston...	15724 50	6682	12951 00
1872	Hamilton...	16092 00	7714	13142 00
1873	London...	16016 00	8420	13797 00
1874	Toronto...	16640 00	8162	14070 00
1875	Ottawa...	16996 50	7318	14651 00
1876	Hamilton...	18237 00	10011	15631 50
1877	London...	16320 60	10618	14387 00
1878	Toronto...	17947 40	10292	13980 00
1879	Ottawa...	18525 00	9668	14967 50
1880	Hamilton...	16994 00	11252	13147 50
1881	London...	17154 50	9486	13456 50
1882	Kingston...	19927 00	7916	14912 00
1883	Guelph...	18494 50	10315	14819 50
1884	Ottawa...	20290 50	7380	15281 50

REPORT OF THE SUPERINTENDENT OF THE HORSE DEPARTMENT OF THE THIRTY-NINTH PROVINCIAL EXHIBITION.

F. H. WARD, Esq.,

Secretary Agriculture and Arts Association of Ontario :

SIR: In accord with section 17, sub-section 3, Rules and Regulations, I beg leave to report as follows :

Class 1.—Thoroughbred Horses. Four aged stallions, one three-year-old filly, two brood mares, and two foals were shown as usual in this class, the aged ones bore marks of hard contests, but showed good breeding and were of good pedigree.

Class 2.—Roadsters. Was well filled, and with very few exceptions were properly entered (by that I mean that in some instances, especially colts not matured, some exhibitors enter in class 2 what properly belongs to class 3, thinking thereby to capture an extra prize, perhaps having an entry of same age in each class, both bred alike, thereby annoying the judges and sometimes beating themselves). Those shown in harness, matched, were an excellent exhibit, the pair gaining first prize, owned by W. H. Hurdman, of Hurdman's Bridge, half sisters, 15.3½ hands, mahogany bay, were beautiful drivers and universally admired, valued \$2,000. The single drivers were also splendid representatives of their class, and gave the judges some exercise in making their awards.

Class 3.—Carriage Horses, sixteen hands and over, was very well filled, the aged stallions especially making an unusually large turnout, and were excellent specimens of their class. The younger sections were not so well filled, nor were there many brood mares and foals, but the show in harness, both matched pairs and single, was good in point of quality as well as number; under the head of extra in this class appeared a lovely pair of black ponies owned and driven by T. Murphy, Province of Quebec, adding an interesting feature to the Exhibition.

Class 4.—Horses for agricultural purposes, was well filled in all the sections except that of yearlings. The matched teams especially, puzzled the judges, being from the nature of things, great variety in point of weight, but upon the whole of good quality.

Class 5.—Heavy Draught Horses, Imported, etc. This class was a magnificent show of powerful, well-selected animals, scarcely an inferior animal in the whole class; most sections well filled, only brood mare and foal and one-year-olds being short, but those shown were choice. The large importation of R. Beith, of Bowmanville, was a show of itself, and perhaps the most valuable ever brought into the Dominion. Jeffrey Bros., Whitby, and Miller, Brougham, also had some very choice animals.

Class 6.—Heavy Draught Canadian bred. In this there was a small competition.

Class 7.—Suffolk Horses. In this class two stallions were shown—Sadlers, of Galt, well and favourably known at Provincials, and one owned by J. Carson, of Kingston.

Class 8.—Percherons.—There was a grand display of stallions, compactly built and solid, all greys with one exception in the males and one in the females, which were jet black, with all the good points possessed by the greys; very few colts. Sniders, of German Mills, were the largest exhibitors, and carried a like proportion of the prizes.

Having given those brief details of each class separately, I may further state that I am of opinion that the number of horses on exhibition in all classes together was greater in proportion to the number of entries than in any previous year that I have been privileged to attend a Provincial Exhibition.

The horsemen were much better contented with stables and litter than last two years, but we hear some complaining of not having suitable stables for stallions, while more suitable stables were occupied by colts and comparatively easier stalled animals; others complaining of having their stalls separated, not having their stalls side by side, while on the other hand we hear the cry, "Why not have the stables divided into sections?" having each class of horses by itself.

We found a tardiness on the part of the grooms bringing out the horses when called on to be judged, thereby giving the judges as well as your humble servant much annoyance: at first one rider only was employed to call them out, but not until we secured the

services of a second could we keep the judges at work, the whole five sets of judges being equally anxious to perform their duties with as little delay as possible : and to keep them all at work, and at the same time not to crowd the ring, requires some tact on the part of the Superintendent and promptitude on that of the party calling and the horsemen in responding thereto. The opening ceremony interfered a little with the judges in their duties, but on Thursday forenoon all got through and left the ring to report—well satisfied.

Those complaints and little difficulties can hardly be altogether overcome, but may, perhaps, be lessened, and for that reason I mention them in passing that the Council may have the opportunity of taking them into consideration. All of which is respectfully submitted.

I have the honour to be, dear sir,

Respectfully yours,

ROBERT VALLANCE,
Superintendent of Horses, Provincial Exhibition,
Ottawa, 1884.

EAST OXFORD, December 13th, 1884.

To the Council of Agriculture and Arts Association of Ontario :

GENTLEMEN.—Having been honoured by the appointment of Superintendent of the cattle department at the recent exhibition in the City of Ottawa, I beg to submit the following report of the animals exhibited thereat :

Durham Class.—There were seventy-three head shown, and had it not been for the Western Fair held at London at the same time, drawing some of the largest breeders in this class, there would no doubt have been double that number on exhibition, but those that were there were very fine specimens of this breed, showing that the breeders of this class of cattle are using great care in improving their herds and bringing them to the high state of perfection that some of them have attained.

The Hereford cattle were very well represented, there being thirty-six splendid specimens on the ground : some of them were extra fine, and were a credit to their owners, being large and well developed, bearing evidence of the close attention the fanciers of this breed are devoting to the improvement of their favourites.

The Polled Aberdeen Class was well filled by twenty-eight fine even specimens. This breed is bound to gain favour with the beef producers of this country.

Galloway Class brought out twenty-two head, all from one herd, and were excellent animals of this kind, but there has been very little competition the last few years in this class.

Devon Class was represented by twenty-eight head of very choice animals, but they do not seem to be in much favour with the farmers of this country.

Ayrshire Class.—There were about ninety head on exhibition, by far the largest exhibit of this breed brought out at any of the shows, but Ottawa and the surrounding country seems to be their home, and that may, to some extent, account for the large exhibit in this class. Some of the breeders of these cattle have made very marked improvement in their herds, judging from some of the very fine animals shown.

Jersey Class was well filled and brought out sixty-five head, most of these being of excellent quality, showing what untiring care and skill will do when directed to the improvement of any breed, and I must say that the breeders of the Jersey have brought their favourites to a high state of perfection.

Holstein Class brought out nine head of very good animals, chiefly celebrated for their milking qualities, which are at present being proclaimed by their owners.

There were very few Grade cattle on the ground, and some of them not up to the standard

In the Fat Cattle Class there was a very meagre showing indeed, not half enough to take the prizes offered, and most of them were not the quality expected to be seen at the Provincial Fair, but there were three steers on the ground, not shown for prizes, sent by the Model Farm, which were *models* of perfection.

There was also on exhibition five head of West Highland cattle, four head of Sussex cattle, four head of Kerry cattle, and seven head of Shetland cattle, all of which are good in their proper places, but cannot see where they could improve the stock of this country.

The general arrangements for the cattle were excellent, both for feed and water, and the cattlemen seemed to be all pleased with the accommodation provided. I would suggest that in future the manure from the cattle sheds be removed from the ground at least every morning before nine o'clock.

I am, your respectfully,

E. W. CHAMBERS.

Superintendent of Cattle Department.

REPORT OF THE SUPERINTENDENT OF THE SHEEP DEPARTMENT OF THE PROVINCIAL EXHIBITION.

HENRY WADE, Esq.,

Secretary, Toronto.

With great pleasure I present this report. I am deeply interested in the continuance of the Provincial Fair, for the reason that it influences the farmer to improve his stock, and to secure improved stock up to the limit of his means, more than permanent exhibitions do. There are hundreds of farmers throughout Ontario who do not attend a Provincial Fair, unless it is held in the section of the province where they reside, and who consequently take very little interest in it, were it not brought within their reach, where they can see the best that the land and the stock-raiser can produce.

By holding it in different places from year to year this is effected, and the agriculturist sees the necessity of purchasing the best stock for the improvement of his own. This feature was particularly noticeable at the late fair at Ottawa in the Sheep Department, out of a total number of sheep exhibits (284) no less than 47 were sold to parties living in the vicinity of Ottawa, besides several orders taken.

This speaks volumes for the policy of removing the Fair from one part of the Province to another.

In conversing with the exhibitors they all without exception said that they would far rather have the honour of taking a prize at the Provincial than at any other.

No word of complaint was raised against the distance travelled, but there was considerable fault found with the usage they received from the railway, having been delayed on the road to Ottawa for nearly a day longer than was necessary, thus causing very great harm to stock shut up in cars without food or water, and all because an American circus, taking hundreds of thousands of dollars out of the country and leaving a questionable influence behind it, had secured the right of way with the railway. I would suggest that the Association make arrangements with the railway company (in future) to have all stock carried to its destination without delay.

The number of sheep exhibited this year was considerably less than in former years; the total number on the ground was 284, medium woolled classes predominating. I give the names of exhibitors in the order they were classed:—

1st. Cotswolds. In this class, Jas. Maine, of Boyne, the principal exhibitor, showed twenty-five head, all imported, twelve in 1881, the remainder in 1883; John Miller, of Brougham, five head; F. W. Stone, of Guelph, three; and another exhibitor from Ottawa, three.

2nd. Leicesters. John Kelly, jun., of Shakespeare, and Thomas Cameron, of Acton, were the only exhibitors in this case.

3rd. Lincoln. Mr. Murray, of Clanbrassel, was the only exhibitor, taking all the prizes.

4th. Southdowns. In this class there was strong competition, John Jackson, of Abingdon, thirty two head (imported); Robert Marsh, of Richmond Hill, twenty-eight head (imported); John Miller, of Brougham, three head; G. Whellens, of Herdman Bridge, one; and R. Robertson, of Billing's Bridge, one.

5th. Shropshire. Grant & Campbell, of Woodville, showed twenty head, all imported: these sheep were fitted for the Royal Show, of England, but imported before the Show was held, were bred by J. S. Mixton, Crayon & Tanner, Byrd, and Farmer, of England; John Dryden, M.P.P., of Brooklin, exhibited seventeen head, nine imported in 1884, very fine animals; John Miller, of Brougham, exhibited in this class eighteen head, and one Hampshire Down lamb, a very fine specimen of the breed; Robert Brighton, of Ottawa, seven head, all imported; G. Whellens, of Herdman Bridge, fifteen head; and R. Robertson, one head.

6th. Oxford Downs.—Peter Arkell, of Teeswater, exhibits twenty three head of very superior Oxford Downs (imported), they are a very large sheep, and worthy of a fair trial.

7th. Merinos.—Merrit and Colborne Smith, of Fairfield Plains, exhibited eighteen head, the only one in this class.

In giving a description of the sheep, as regards the quality, it is needless for me to say much, as they are nearly all prize animals; in fact, the very cream of the Province. In the classes where there was competition, the judges had a very difficult task to perform. I must say a word or two in behalf of those who were exhibitors from the vicinity of Ottawa. They deserve great praise for coming forward with their stock, although not in trim for exhibition, yet they were not ashamed to show what they had; and I venture to say that should the exhibition be held at Ottawa again, breeders from the West will have to look sharp before they can carry everything before them as they have done this year.

I will now give you a list of sales made, as far as I was able to learn:—Jas. Maine sold one shearling ram and two shearling ewes, Cotswolds, for \$170; Thomas Cameron sold six Leicesters for \$18 each; John Kelly, three ram lambs and one two-shear ram for \$180; Grant & Campbell sold to Joseph Halpenny, of Fitzroy, county of Carleton, two Shropshire rams for \$150, one ram to Kennedy & Campbell for \$40, and one ram lamb for the same; Alber Hager, two Shropshire ram lambs to A. Kennedy, of Osgoode, for \$60; John Miller sold two Shropshire rams at \$50 each, one ram lamb at \$80, one Cotswold at \$35, and three Southdown at a good price; John Jackson sold seven rams and two ewes, Southdown, at a good figure; Robert Marsh sold seven rams, and taken several orders for ewes, prices from \$30 to \$50 each; Peter Arkell sold six Oxford Downs at \$50. All of these sheep have been sold to remain in the eastern part of the Province.

A good representation of every class was shown, and the exhibitors are to be congratulated on the very superior quality shown. One word concerning the exhibitors. I must say that I had no difficulty with them. All took the places awarded to them without a word of complaint, well satisfied with their lot, and all spoke well of the Association and General Superintendent for providing them with plenty of good straw for bedding (may they continue to do so).

I would suggest that the Association provide better sheds, also gates on the pens for the removal of the sheep while being exhibited. The pens at Ottawa were not safe. The bars for folding the sheep were constantly falling down, caused by the sheep rubbing against them. If sheds were built similar to those at St. Louis, but not so expensive, would answer well. Sheep will catch cold about as quickly as any other animal, and pens should be built in such a manner that no draft would blow upon them, in wet weather especially.

Thanking you for the honour of being Superintendent,

I am your obedient servant,

HORACE CHISHOLM,
Paris, Ont.

October 28th, 1884.

H. WADE, Esq.,

Secretary Agriculture and Arts Association.

DEAR SIR, In making my report on the Swine Department at the Ottawa Exhibition, I beg to say that the classes were all well filled. Class 27, Improved Berkshire. Forty-nine entries, there were thirty one on the grounds, six of those were prize winners at the Royal Show in England; they were a very fine lot and speak well for the enterprise of Canadian breeders. Class 28, Suffolks. Forty-seven entries, there were forty-five on the grounds, there was good competition in this class for the Prince of Wales' special prize. Class 29, Poland China. Twenty-nine entries, there were twenty five on the grounds, and made a good show, better than I have seen at former Exhibitions. Class 30, Essex. Twenty entries, there were some very good animals, but the competition was poor, as they were nearly all owned by one person. Class 31, Large Breeds.—Sixty-five entries, there were fifty six on the grounds, the competition in this class was very good, as there were a number of very fine animals, and being a mixed class made it more difficult for the judges. Class 32, Jersey Red Pigs. None. In concluding my report, I would recommend that pedigrees be required for all pigs entered for exhibition, as far as possible to have them. It is very unpleasant for exhibitors with pedigreed stock to be beaten with grade, as is sometimes the case at present. With best wishes for the future prosperity of the Provincial Exhibition,

I remain yours,

ROBERT VANCE.

LONDON, October, 1884.

To H. WADE, Esq.,

Secretary Provincial Exhibition.

SIR,—In accordance with the instructions contained in prize list, relating to superintendents, I submit my report. I regret the department in which I had the honour to supervise was not better attended, various causes have combined to bring about this result, one amongst the many is the holding of so many shows at same time as the Provincial Exhibition is held. I am asked to make suggestions for the improvement of this branch; the following are suggestions I deem worthy of consideration by the directors: That the old prize list should be again adopted. —For old fowls, 1st prize should be \$4; 2nd, \$3; 3rd, \$2. For young birds, 1st, \$3; 2nd, \$2; 3rd, \$1. I am satisfied if the old list is adopted with the two silver medals for collections, one on fowls and one on chicks, that there will be a large exhibit of poultry at the Provincial next year, as there is nothing brings out exhibitors like a good prize list.

Yours respectfully,

WM. McNEIL.

REPORT OF THE SUPERINTENDENT OF THE GRAIN, ROOTS, AND HORTICULTURAL DEPARTMENT.

In field grains the competition was good in almost every section. In both winter and spring wheats the show was specially good.

Indian Corn—the number of exhibits was large and exceedingly fine.

In small field seeds there was a very fair competition in most of the sections.

Field Roots—The show of potatoes was very large and exceedingly good, the collections were perhaps the best ever exhibited in Ontario.

Swedish Turnips of the different sorts were large and clean; other turnips were better than on former occasions.

Carrots were very good. Mangels of all the different sorts were very large and fine.

In all sections in this class there was a very good show.

HORTICULTURAL DEPARTMENT.

Fruit—Professional Nurserymen's List—The competition was not large, but the samples exhibited were very fair.

In the General List the show of apples was very good ; in many sections the competition was very large and the samples fine.

Plums—There was not a large competition and only a few fine samples.

Peaches—The show was not so good as on former occasions.

Grapes—The display of out-door grapes exceeded any former show, both in quality and quantity ; many of the samples were magnificent.

Grapes grown under glass—a number of fine samples.

COLLECTIONS.

Apples—Forty varieties, there were seven exhibits all very good ; fine display.

Pears—Five exhibits ; all fine.

Grapes—Six exhibits ; all excellent.

Garden Vegetables—In most of the sections there was a very fair competition ; all the different kinds of cabbage were large and good. Onions, extraordinary. Tomatoes, very fine.

PLANTS AND CUT-FLOWERS.

Green-House plants show very good ; foliage plants also good ; Coleuses, grand display ; ferns, magnificent ; begonias, very good ; geraniums, fair.

Cut-Flowers—Somewhat deficient, not much competition, exhibits scarcely up to the standard.

D. NICOL,

Superintendent.

Cataraqui, Nov. 1, 1884.

REPORT DAIRY DEPARTMENT, 1884.

SIR, The exhibit in the Dairy Department was very good. The cheese was very good, indeed, quality fine, but we expect to make a more uniform quality next season, and greatly improve the boxes. We must look after the butter, which is getting worse every year instead of better, and our show was very common. We feel greatly encouraged in our cheese business, and are making steady progress ; but going back in our butter business.

Yours respectfully,

HENRY WADE, Esq.

T. DERBYSHIRE,

Brockville.

COUNCIL MEETING.

WELLINGTON HOTEL, GUELPH, Tuesday, Dec. 16th, 1884, 12 o'clock, noon.

Members present—Messrs. Legge, Shipley, Parker, White, Moore, Aylesworth, Drury, McKinnon and Reid.

The minutes of the September meeting during the Exhibition at Ottawa, were read by the Secretary and confirmed.

A letter was read from Wm. Gordon, Esq., Mayor of Stratford.

OCTOBER, 10th, 1884.

T. H. WADE,

Secretary of Provincial Exhibition :

DEAR SIR, — I understand you have not decided where to hold the Provincial Exhibition next year, and respectfully beg to bring under your notice the advantages which Stratford presents for the accommodation of such.

As regards our railway facilities they are second to no town in Canada, we have railroads running out to all points of the compass. Our hotels are numerous, large and elegantly fitted up, and by far surpass those of any town or city in the Province outside of Toronto, even London not excepted.

Our Agricultural Grounds are well fenced with high board fence and comprise twenty acres with large agricultural hall, etc.

WM. GORDON,

Mayor.

Also another letter was read from Collingwood as follows :

COLLINGWOOD, Ont., Oct. 6th, 1884.

H. WADE, ESQ.,

Secretary Provincial Exhibition, Toronto.

DEAR SIR, — The Directors of the Great Northern Exhibition desire to bring their claim to the Provincial Show under the consideration of the Board.

They have a fine piece of land of twelve acres with new and spacious buildings which they are led to believe by parties who have attended at the Provincial Shows are the best outside Toronto, Hamilton and London.

This land adjoins the Northern Railway, and there is a siding direct on to the grounds and close to the cattle-sheds, with every facility for unloading and loading cattle and implements, and accommodation which can only be found in one or two other localities.

The facilities afforded by the Northern and North Western Railway by having direct access to these grounds and crossing or connecting with nearly all the Western Roads, are quite as good as any place outside of Toronto, and certainly far better than any place east of that city.

Besides the accommodation at present promised by the Company they are prepared to provide any further land or buildings that your Board may think necessary.

Trusting that you will submit this to the consideration of your Board at an early date,

I remain, yours obediently,

C. CAMERON,

Manager.

Mr. Gordon, the Mayor of Stratford, then addressed the Council to substantiate his invitation, and asked on what terms the Provincial could be obtained.

Mr. Parker said that Stratford was a good point as far as railway and hotel facilities were concerned, and he would favour Stratford, providing that place would guarantee the necessary accommodation.

Mr. Drury called attention to Collingwood, that town being in his constituency, and naturally he was interested in having it there, but he was afraid that the hotel accommodation was not sufficient, being different in that case to Stratford. He thought they ought not to be too particular as to expensive buildings, and if they had to go to smaller towns, that we should do as at the Royal of England — do away with the art department.

Mr. White said that Stratford was a good place, but that if we did not go to London, Chatham should have it, and no doubt there would have been a deputation from there only he had told them the matter would not be decided until the March meeting.

Mr. Legge thought tents could be used at the smaller towns in place of buildings.

Mr. Shipley said he was glad that the smaller places were looking out for the Pro-

vincial. There were six railways running into Stratford, it was a very good point. He thought the country people were extremely anxious to get it there.

Mr. Legge said that at Guelph private houses were opened to visitors, and that ample room was provided.

Mr. McKinnon said the Council would use tents where possible, but it would not do to use old ones. For cattle they would require wooden buildings. He was glad to see that Stratford, Collingwood and Chatham wanted the exhibition.

Mr. Moore was satisfied a good show could be held at Stratford. He had seen good stock there, and the railway facilities were excellent.

The President thanked Mayor Gordon for waiting on them with the invitation, which he promised would be considered.

Mayor Gordon then withdrew.

Moved by Mr. Drury, seconded by D. S. McKinnon, That the Finance Committee be requested to prepare estimates of the requirements of the Association for 1885 for the Government.—Carried.

Moved by Mr. Parker, seconded by Mr. McKinnon, That the President and Messrs. Drury, White, Aylesworth, and Moore be a Committee to report on the subject of Essays for 1885.—Carried.

The Council then adjourned until afternoon.

WELLINGTON HOTEL, GUELPH, 2 o'clock p.m.

Council resumed. Same members present, also W. Ira Morgan.

A copy of a resolution passed by the Council of the City of London was then read, dated the 15th of December, 1884.

Moved by Alderman Searrow, seconded by Alderman Cowan. That this Council petition the Board of Agriculture to hold the Provincial Fair for 1885 in this city, and that Aldermen Cowan and Skinner proceed to Guelph, to urge the matter on the Provincial Board.

Certified to be a correct copy.

CHAS. S. HYMAN,

Mayor.



ALEX. S. ABBOTT,

City Clerk.

City Clerk's Office, 15th Dec. 1884.

Also a petition from Mayor of Council of London to the Board of Agriculture for the Province of Ontario.

The petition of the Municipal Council of the corporation of the City of London, HUMBLY SHEWETH:

That in the opinion of your petitioners the best interests of the Board would be promoted by holding the exhibition for 1885 at the City of London.

Your petitioners therefore pray that your honourable body may order and direct that the City of London be decided upon as the place at which the said exhibition shall be held.

And your petitioners, as in duty bound, will ever pray.

ALEX. S. ABBOTT,

Clerk.



CHAS. S. HYMAN,

Mayor.

Aldermen Cowan and Skinner, the deputation from London, were then requested to address the Council.

Alderman Cowan pointed out the advantages which London possessed for holding agricultural exhibitions. That city had spent in 1881 \$22,000 in fitting up the grounds. There was a proposition at present to sell the grounds, but should it be decided to hold the Provincial there next year the Association would be awarded possession.

Alderman Skinner spoke in the same strain. He dwelt more fully on the improvements that had been made, and said that if the Council should decide to go to London next year they would have the hearty co-operation of the City Council of that place.

Mr. Shipley spoke in flattering terms of the adaptability of London as a place in which to hold the Provincial. The grounds and buildings he knew were in good condition.

Mr. Drury said the City Council of London had done just what they ought to do, and he hoped that the Directors of the Western Fair were in accordance with the City Council.

Mr. Aylesworth was pleased to hear so many invitations, and that it would be fair to let them know at this meeting that he was in favour of London.

Mr. McKinnon said that he was sure the general feeling of the Council was that London was the best point for the Provincial for next year.

The President, J. Legge, said he was pleased to see the deputation, and hear of the kindly feeling that existed between the City of London and the Board, and promised the deputation their earnest consideration of the subject.

The London deputation then retired.

A deputation from the City of Guelph was then received by the Council. It consisted of Mayor Chase, Alderman Hall, Goldie, and W. F. J. Chadwick, who each addressed the meeting, urging the claim of the Royal City for the next Provincial Exhibition in view of its unrivalled position as an agricultural, live stock, manufacturing and railway centre, and in view of its having gone to a great deal of expense for the exhibition in 1883.

The President, Messrs. Drury, Parker, Morgan and Moore, all expressed a warmth of feeling in favour of Guelph, and stated that if they did not deem it consistent with the interests of the Association and of the Province to hold the next show in Guelph, they assured the deputation that they would do so again so soon as it was expedient, and that Guelph would have its turn in the near future.

The Guelph deputation then retired. A letter was then read from the Treasurer of the City of London.

LONDON, ONT., October 29th, 1884.

GENTLEMEN, By virtue of articles of agreement made 28th September, 1861, and the payment of the sum of \$1,000, privileges were granted to the Board of Agriculture of Upper Canada, to hold County and Agricultural Fairs, etc., on that part of the present Exhibition ground in the City of London, east of Wellington street, free of any charge, and whereas there are now propositions under consideration by the Municipal Council of the City of London to transfer the Exhibition grounds to other localities ;

I am instructed by No. 1 Committee of the Municipal Council of the said City of London to solicit an expression of your Board's views on the matter.

In view of the City Council obtaining a vote of the ratepayers to sell the present and purchase other grounds for exhibition purposes, would your Board be willing either to transfer its rights from the present to another locality, or accept monetary consideration in lieu of present lien. We should be pleased to have an early reply to each proposition.

I have the honour to be

Your obedient servant,

JNO. POPE,
Treasurer.

TO THE PRESIDENT AND MEMBERS

BOARD OF AGRICULTURE OF ONTARIO.

Mr. Morgan moved, seconded by Mr. McKinnon, That letter from Jno. Pope, Treasurer, London, be laid over till next meeting of Council. Carried.

Moved by Mr. White, seconded by Mr. Drury, That after hearing the deputation from the City of London and considering the petition from the Mayor and corporation from said city, praying that this Council will hold their annual exhibition for 1885 in that city, be it therefore resolved that the exhibition for next year be held in the City of London, if the necessary accommodation is provided by that city.

A letter with a series of resolutions was read from a Committee of the students of the Ontario Veterinary College of Toronto, asking the Council for a diploma with a new design to be printed on parchment. They complained that the old one was out of date, and that only being on paper was easily torn; also that the word "diploma" should appear instead of "certificate."

Signed, Executive Committee of Students.

W. H. HARBAUGH,
J. A. GERULIE,
E. J. STERNER.

Moved by Mr. Parker, seconded by Mr. Morgan, that the President and Mr. Drury be a Committee to meet Dr. Smith and arrange about new diploma. Carried.

Mr. Drury then presented the following report:

The Finance Committee beg to report that the following sums be asked from the Legislature for the year 1885, viz.:

Prize farms	\$250
Council expenses	725
Veterinary College	125
Essays	100
Salaries	1,500
Exhibition	5,500
Postage and printing.....	600
Educational scheme	500
Fat Stock Show	700

Making a total of..... .. \$10,000

All of which is respectfully submitted,

CHARLES DRURY,
Chairman.

Guelph, Dec. 16th, 1884.

It was then moved by Mr. Drury, seconded by Mr. Aylesworth, that the estimate as above be adopted. Carried.

A couple of letters were read from Mr. Thos. R. Merritt *re* mortgage now due on building of agricultural hall.

Moved by Mr. Parker, seconded by Mr. White, That the Finance Committee be authorized to raise funds by mortgage or otherwise, sufficient to pay the \$5,000 mortgage now due upon our property, on the corner of Yonge and Queen-streets, in the city of Toronto, on the best terms as to interest and length of term they possibly can, and that the President and Secretary be authorized to sign a mortgage for that amount, upon the recommendation of the Chairman of the Finance Committee.

A letter was read from Mr. Carnegie, regretting that he would not be able to attend the present meeting of the Council, and requesting the Secretary to give the Board formal notice, that at its next meeting he would move to strike out of our next year's prize list nearly all, if not all, the articles coming under the present heading of Arts and Manufactures.

Moved by C. Drury, seconded by Ira Morgan, that the sum of \$40.00 be paid to Mr. Carnegie, being expenses incurred at Montreal attending the British Association as directed by this Council, Carried.

TORONTO, 5th Nov., 1884.

DEAR SIR,—I beg to notify you that the Government have decided to appoint Mr. J. B. Smyth, Auditor of the accounts of the Agriculture and Arts Association for the present year.

Yours truly,

A. M. ROSS,

Commissioner of Agriculture.

HENRY WADE, Esq.,

Secy. Ag'r. & Arts Ass'n., Toronto.

Moved by Mr. White, seconded by Mr. Aylesworth, that Mr. John I. Hobson, of Mosborough, be appointed Auditor for this Association. Carried.

TORONTO, Dec. 10th, 1884.

DEAR SIR, The Treasurer requests me to advise you of the undertaking of the Association to pay \$2,000 as a first instalment of \$4,000 due the Government, and to ask that a cheque may be sent to this Department at your earliest convenience.

Yours truly,

W. R. HARRIS,

Ass't Treasurer, Ontario.

HENRY WADE, Esq.,

Secy. Agr. & Arts Ass'n, Toronto.

Moved by C. Drury, seconded by Mr. White, That the Treasurer of this Association be instructed to pay to the Hon. the Provincial Treasurer the sum of \$2,000, in accordance with the arrangement made with the Government for the liquidation of the agricultural hall indebtedness, leaving a balance unpaid of \$2,000.

To the President and Council of the Agriculture and Arts Association of Ontario :

GENTLEMEN, —The Provincial plowing match in District No. 3, comprising Divisions Nos. 7, 8 and 9, took place on the 23rd October, and was held on the farm of R. H. Burch, Esq., one-half mile east of Woodstock. The location and fields were well adapted for the purpose.

Considerable effort was made by the representatives of said divisions and by the local committee to issue an attractive prize list and to give due publicity to the match by advertising in the several counties embraced in the district and otherwise. The consequence was that a prize list was issued amounting to \$101, and that competitors came from a wide range of country, some coming from as far as Markham. But for the very inclement day the match would have been attended by thousands; as it was the attendance was remarkably large. The ploughmen, notwithstanding the "surly blasts" of old "Boreas," and accompanying snow, set to their work with plucky and undaunted front, and accomplished it in the teeth of the difficulty with great success, both as to time and excellence. Both judges and spectators pronounced the work done as first-class. For the first time in a Provincial plowing match (so far as we know), plowing with sulky plows was introduced as a class for competition. The rivalry in this, as also in the jointer plow class was considerable, and excited much interest.

The judges for the 1st, 2nd, 4th and 5th class were: —Messrs. Hyde, Shakespeare; Rennie, Markham, and Park, East Oxford, and for the 3rd and 6th classes, jointer and sulky plowing, were: —Messrs. Gregory, St. Catharines; McNab, Ayr, and Cochrane. The duties of the judges were arduous, having the work of forty competitors to compare and estimate; they discharged them, however, with skill and care and gave great satisfaction. The cordial thanks of the Committee are hereby officially tendered them.

The representatives of the Provincial Board, viz: J. C. Rykert, H. Parker, George Moore, and H. Wade, Secretary; the Warden of the County of Oxford, the Mayor of Woodstock, the judges, and other guests were entertained by John White, Esq., President of the Woodstock Board of Trade, to a substantial and elegant luncheon at his residence, "The Firs," close to the scene of the match. Mr. White's kind hospitality was highly appreciated, and the thanks of the committee are hereby officially expressed. The following is a list of the prize winners and the prizes awarded, also financial statement, together with copy of prize list, all of which is respectfully submitted.

H. PARKER,

Chairman of Committee.

FINANCIAL STATEMENT.

INCOME.

To Cash Grant from Provincial Association	\$300 00
“ “ N. R. of Oxford Agricultural Society	100 00
“ Donation from James Rapson, Esq., Woodstock	5 00
“ “ John Fowell, Esq.	5 00
“ Entrance fees from competitors	40 00
“ Plow from Ayr American Plow Company, value	23 00
“ “ Aurora Plow Works	17 00
	<hr/>
	\$490 00

EXPENDITURE.

By Cash and plows paid to successful competitors	\$381 00
“ for printing bills, prize lists, tickets, and advertising in the counties of District No. 3.	36 00
“ for postage, telegraphing, and posting bills	6 85
“ for judges' expenses	10 70
“ for George Moore's expenses	7 00
“ for lunch to competitors	5 00
“ for working expenses of local committee, including hire of vehicle, allowance to Secretary, etc., etc.	36 43
“ Balance of income returned to N. R. of Oxford Agricultural Society ..	7 02
	<hr/>
	\$490 00

PRIZE LIST OF THE PROVINCIAL PLOWING MATCH.

TO BE HELD ON THE FARM OF R. H. BURTON, ESQ., HALF MILE EAST OF WOODSTOCK.
ON THURSDAY, OCTOBER 3RD, 1884.—OPEN TO THE PROVINCE.

First Class. Open to all plowmen, no restriction as to plow used: 1st prize, \$40; 2nd, \$25; 3rd, \$15; 4th, \$10; 5th, \$5.

Second Class. Open to all plowmen who have never taken a 1st, 2nd or 3rd prize in the First Class in any society's match: 1st prize, \$30; 2nd, \$20; 3rd, \$15; 4th, \$10; 5th, \$5.

Third Class. Open to plowmen with Jointer Plows: 1st prize, Chilled Jointer Plow, donated by the Ayr Am. Plow Co., value \$23; 2nd, No. 30 Jointer Plow, donated by G. Wilkinson & Co., Aurora Plow Works, value \$17; 3rd, \$10; 4th, \$5; 5th, \$3.

Fourth Class. Open to plowmen who have never competed at any society's match: 1st prize, \$20; 2nd, \$10; 3rd, \$5; 4th, \$3.

Fifth Class. Open to boys under 18 years of age: 1st prize, \$25; 2nd, \$15; 3rd, \$10; 4th, \$8; 5th, \$6; 6th, \$4; 7th, \$2.

Sixth Class. Open to plowmen with sulky plows: 1st prize, \$25; 2nd, \$12; 3rd, \$7. John Fowell and J. Rapson, Agr. Imp. agents, Woodstock, have each subscribed \$5 towards the prizes in this class.

Special.—For the best plowing team at the match; 1st prize, \$5; 2nd, \$3.

Refreshments to be had on the grounds. Free lunch to competitors.

RULES.

1. In classes 1, 2, 4 and 5, depth of furrow to be not less than six inches, in class 3 not less than 7 inches, and in class 6 the depth to be not less than 7 and the width not less than 12 inches.

2. Competitors must be on the ground not later than 9 a.m., to draw the numbers of their lots. Plows to start precisely at 10 a.m. Time to finish will be announced on morning of the match.

- 3. No person except the judges and committee shall be allowed to walk on the land plowed or to be plowed
- 4. No person shall interfere or communicate with the plowmen after the stakes are set.
- 5. Tickets for each lot to be drawn by ballot by the plowmen at 9.30 a.m.
- 6. Entries to be made with the Secretary before 9 a.m. on day of match.
- 7. Entrance fee \$1 to all competitors.

COMMITTEE OF MANAGEMENT.

J. C. Rykert, Esq., M.P., Geo. Moore, Esq., Vice Pres. of the A. & A. Ass'n., and Henry Parker, Esq., for the Prov. Ass'n. and M. M. Nesbitt, T. Peat, John Peers, James Sutherland, M.P., E. W. Chambers, Jos. L. Peers and J. H. Sylvester as Local Committee.

JOHN CRAIG,
Secretary, Woodstock.

HENRY PARKER,
Chairman of Committee.

Woodstock, Sep. 22nd, 1884.

The following is a list of the prize winners, and the amount paid to each :

FIRST CLASS.

1st.	Thomas Steele.....	Avonbank.....	\$40 00
2nd.	Robert Russell.....	Walmer.....	25 00
3rd.	John Fulton.....	Brownsville.....	15 00
4th.	James Geddie.....	Paris.....	10 00
5th.	Alex. Stewart.....	Milliken.....	5 00

SECOND CLASS.

1st.	William Murray.....	Avonton.....	30 00
2nd.	William Tweedale.....	Tapley Town.....	20 00
3rd.	William Walton.....	Walmer.....	15 00
4th.	William Richardson.....	Cathcart.....	10 00
5th.	John Smith.....	Cassel.....	5 00

THIRD CLASS JOINTER PLOWS.

1st.	Robert Cranston.....	Galt, Plow val'd at \$23, & cash	31 00
2nd.	Wm. Meikle.....	Dumfries, " 17,	17 00
3rd.	Chas. Knight.....	Dumfries.....	10 00
4th.	Jas. Adams.....	Dumfries.....	5 00
5th.	And. Marshall.....	Ayr.....	3 00

FOURTH CLASS.

1st.	Thos. Riddel.....	Woodstock.....	20 00
2nd.	Robert Jarret.....	Ingersoll.....	10 00

FIFTH CLASS—BOYS.

1st.	John Richardson.....	Burford.....	25 00
2nd.	W. R. Bigham.....	Culloden.....	15 00
3rd.	W. Rodger.....	Ayr.....	10 00
4th.	Robert Woods.....	Cassel.....	8 00

SIXTH CLASS—SULKY PLOWS.

1st.	Geo. Cunningham.....	Galt.....	25 00
2nd.	Wm. Hester.....	Ayr.....	12 00
3rd.	John Lang.....	Ayr.....	7 00

SPECIAL—BEST PLOWING TEAM AT MATCH.

1st.	Thomas Dent.....	Woodstock.....	5 00
2nd.	And. Marshall.....	Ayr.....	3 00

\$381 00

Moved by Mr. White, seconded by Mr. Aylesworth, That the report of Mr. Parker, Chairman of District No. 3, be adopted. Carried.

To the Council of the Agriculture and Arts Association.

GENTLEMEN,—At our April meeting our President Mr. Legge and myself were appointed delegates to attend a meeting at St. Louis, of exhibition officials, to commence on the 3rd of June; at the last moment our worthy resident disappointed me and I had to go alone to represent your honourable body, however, I was accompanied by Mr. H. J. Hill, Manager, and Mr. McGee, Treasurer, of the Industrial Exhibition, so Canada was not neglected.

We put up at the Southern Hotel, where the Convention was held; it lasted two days. The discussions were very interesting and instructive. The American people are a business race. In this short Convention of two days, a preamble, constitution and by laws were prepared and passed. The Association is called the International Association of Fairs and Expositions. The officials to consist of a President, one Vice-President from each State and Province represented—two Secretaries, a Treasurer, and an Executive Committee consisting of six members, of which the President shall be ex-officio member and chairman. The other five members to be elected annually,

Mr. H. J. Hill and myself were honoured by being elected Vice-Presidents for the year. The subjects brought up for discussion were: "What is the most practical manner of issuing exhibitors' passes?"

"What would be the most satisfactory manner of selecting awarding committee or judges?"

"Is it advisable to employ expert judges for live stock exhibits?"

"What number of judges of awarding committees have given most satisfaction—one, three or five?"

"Is it not advisable to have railroads make a half rate each way on freight, live stock and passengers, instead of full rates going and returning free?"

"Is it advantageous to have railroads sell admission tickets in connection with their reduced rates." These questions were referred to committees to report upon on the following day.

The report of the committee on the first question is as follows:—"In reference to the question of free passes to exhibitors, we feel free to say in our judgment, the entire system should be abolished, because of its great abuse, and because of the unsatisfactory workings of any free pass system to exhibitors. We know of no reasonable grounds upon which to justly base such generosity upon the part of fair and exposition managers. Exhibitors should not be made a preferred class, but should be upon the same footing as all other patrons. While we do not desire to interfere with the local management of any association, we are satisfied from our personal experiences as secretaries, that the free pass system practiced to any considerable extent by the larger and more influential and wealthy societies, works a very great hardship among the weaker organizations by compelling them to adopt the same plan, in order to insure exhibits at their annual meetings, thus diminishing their gate receipts with no corresponding reduction of their schedule of premiums and expense account, and forcing them to pay their premiums at a less rate than one hundred cents on the dollar, and ultimately into liquidation if not insolvency.

Premiums and expenses cannot be paid with inadequate gate receipts, and no class are more interested in the full and prompt collection of gate money from all patrons of the exhibition than exhibitors themselves. As a rule, all money obtained from the gate and from all other sources is paid over to them in the way of premiums, less the actual cash expenses of the fair, or exposition; and in some instances more money is paid to them than is received at the gate and from other sources, thus leaving the society crippled and in debt for the deficit.

"The exhibitor, the producer and manufacturer, are the direct beneficiaries of agricultural and mechanical fairs and art expositions, and are more interested in their successful management and perpetuity in every state, county and community, than any one else, and should, in the opinion of your committee, enter heartily into the support of any plan or

measure that will protect these institutions so beneficial to their business, and perpetuate them upon a self-sustaining basis, and enable them to keep pace with the fast developing resources of the community in which they are located, and of the country at large."

On the second question: "The committee to whom was referred the subject of the manner of selecting Awarding Committees, would respectfully report that, in their opinion, it would be unwise to adopt any rigid rules on the subject, but would recommend that each association adopt such rules as they think will be the most likely to secure the prompt attendance of the committee after they are appointed."

On the question of the proper number to be used as committeemen, we are inclined to the opinion that small committees are most likely to give general satisfaction.

While the expert system has many points to recommend it, we are not at present prepared to recommend its adoption in toto, but we would recommend that the system be adopted in such classes as may be found practicable.

We also are of the opinion that the proper parties to appoint the Awarding Committees are the directors having charge of the class or department in which they are required to act, calling in such advice as they may deem necessary. That such appointments should be made, and those appointed should be notified of such appointment, six weeks or two months previous to the date of the fair or exposition, and it is not desirable that such appointments should be published previous to the date of the fair or exposition.

At a meeting of the Executive Committee held in Jerseyville, Ill., on August 16, 1884, an address was prepared for circulation amongst the different associations that had not attended the convention, and the time was appointed for the next convention to be held in St. Louis on the 3rd of December of this year. This being so soon after the first meeting I did not think it advisable to go on account of the expense. I had a call from Mr. S. C. Stevenson, Secretary of the Arts and Manufacturers' Association of Montreal on his way home from this second meeting. He reports it a great success, and that the papers read were of great value. He was elected Vice-President for Quebec, while I was re-elected Vice-President for Ontario, and Mr. H. J. Hill was put on the Executive Committee.

I also attended the seventh annual Chicago fat stock show, held under the auspices of the Illinois State Board of Agriculture; it commenced on the 11th of November and lasted until the 20th.

They had 311 entries of cattle, but about 100 of these were only for sale; they also had 55 sheep, 69 hogs, and 53 horses, 483 animals in all.

As this exhibition has been so well reported in the papers it will not be necessary for me to go into details, but only mention the honours awarded to Canadians, the highest honours ever taken by a beast in the world, having been taken by the grand Bow Park steer "Clarence Kirklevington." He won the 1st prize in his class as a three-year old pure short horn, the first sweepstake prize for short horns—the grand sweepstakes, and the grand sweepstakes for the best dressed carcass, in all \$335 in cash. He was 1372 days old—live weight 2400 lbs; carcass, hide and tallow, 1906½ lbs., and the four quarters weighed 1659½ lbs.

Our friend Mr. Hope may justly be proud of this beautiful animal. Another first carcass prize was taken, a grade Angus steer, two years old, raised at the Ontario Experimental Farm, called "Abernothy," and Mr. Cochrane a yearling carcass prize for an Angus steer called "Quality." Several live stock meetings of importance were being held in the city, also sales of cattle. I met several old friends, both Canadian and American, and passed three days very pleasantly and profitably. It would be well for us to consider about holding a sale of pure bred cattle during our Provincial Fat Stock Show, it could be managed with but a little trouble and not much expense.

All of which is respectfully submitted.

HENRY WADE,

Secretary.

Toronto, Dec. 13, 1884.

Moved by Mr. Geo. Moore, seconded by Mr. Aylesworth, that the thanks of this

Association be given Mr. Wade, our Secretary, for the able and instructive report of his visit to St. Louis and Chicago.

The meeting then adjourned until 9 o'clock on Wednesday, the 17th.

HENRY WADE,
Secretary.

WELLINGTON HOTEL, GUELPH, Wednesday, 9 o'clock a.m.

Council met pursuant to adjournment. The President in the chair. Same members present, with the addition of Mr. J. C. Snell.

Absent, John Carnegie and J. C. Rykert.

The Secretary presented the Reports from the different Superintendents of the Provincial Exhibition. He was requested to revise them for publication.

Mr. White then presented the Report of the Committee to choose subjects for essays for 1885, recommending the following:—

1st. The apple. — Its importance as an article of commerce in Canada, and for exportation; adaptability of the different kinds to the various localities; its propagation and cultivation; its principal insect enemies and remedies therefor. Manuscript not to exceed twenty-five pages. 1st prize, \$30; 2nd prize, \$20.

2nd. Underdraining. The best method of underdraining the different soils of Ontario; the cost and the practical benefits resulting therefrom. Manuscript not to exceed twenty pages. 1st prize, \$30; 2nd prize, \$20.

Mr. White remarked in moving the adoption of the Report that he thought the subjects very appropriate, and it was the first time they had one subject of an essay above the ground and the other under it.

Mr. Aylesworth seconded the motion.

Mr. Parker thought that by taking the apple as a subject they might trench on the ground of the Fruit Growers' Association.

Mr. Snell said he would be in favour of substituting for the subject of the apples that of the relation between employers and employees on the farm. He thought this was a very important subject and one that should claim attention.

Mr. Drury thought Mr. Snell's subject an admirable one, and was sorry it was not mentioned before.

Mr. Snell moved, seconded by Mr. Morgan, that the relation between employers and employees be made the subject instead of the apple. Lost.

The original motion was then carried.

In accordance with the request of the Department of Agriculture of the Dominion, asking that a collection of grain, roots, etc., be made in the Province of Ontario by this Association, to be sent to the International Exhibition at Antwerp in Europe, to show the different kinds and quality of grain grown in the Province of Ontario, I beg leave to report that the following grain, roots and apples have been sent forward:

Oct. 31—	1 bag	Winter wheat,	Clawson.
	1 "	"	Deihl.
	1 "	"	Hybrid Mediterranean.
	1 "	"	Michigan Amber.
	1 "	Spring wheat,	Canada Club.
	1 "	"	Emporem or Red Fern.
	1 "	"	White Russian.
	1 "	"	Defiance.
	1 "	"	Scotch Fife.
	1 "	"	French Imperial.
	1 "	Oats,	Wilson White.
	1 "	"	Black Champion.
	1 "	Barley, spring,	Six-Rowed.
	1 "	"	Two Rowed.
	1 "	"	Black Hullless.

Oct. 31	1 bag	Barley, spring, White Hulless.
	1 "	Peas, spring, White Marrowfat.
	1 "	" " Black eyed Marrowfat.
	1 "	" " Golden Vine.
	1 "	" " Blue Prussian.
	1 "	Tares, spring, Black.
	1 "	" " White.
	1 "	Timothy Seed.
	1 "	Flax.
	1 "	Millet, Italian.
	1 "	Rye, Fall.
	1 bushel	corn, Compton Early Yellow.
	2 "	corn in the ear, White and Yellow.
	2 "	Fall Wheat, White.
	6	varieties of potatoes.
	6	" "
	2 bushels	potatoes.
	3	varieties onions.
	4	" potatoes.
Oct. 15—	1 bushel	corn in the ear.
	1 "	wheat, spring.
	1 "	each, different mangolds, carrots and beets.
	1 "	beans.
	1 "	peas.
	1 barrel	apples, Northern Spy.
	1 "	" King of Tompkins.
	1 "	" Baldwins.
	2 "	" Roxbury Russet.
	1 "	" Rhode Island Greening.
	1 "	" Holland Pippin.
	1 "	" Cogswell and St. Lawrence.
	1 "	" Red Canada.
	1 "	" La Rue.
	2 "	" Golden Russet.
	1 "	" Twenty Ounce.
Oct. 29—	1 bag	wheat, Clawson.
	1 "	" Manitoba Spring.
	1 "	barley, Six-Rowed.
	1 "	" Two-Rowed.
	1 "	rye, Winter.
	1 "	peas, Large English Field.
	1 "	" Small Field, Prince Albert.
	1 "	oats, White Surprise.
	1 "	" Black Tartary.
	1 bushel	Trophy Seed.
	1 bag	Black Barley.
	1 "	Spring Wheat.
	1 bushel	White Beans.
	1 bag	peas.
	1 "	Black Oats.
	1 "	barley.
	1 bushel	clover seed, Large Red.
	Black chaff wheat in the straw.	
	15 pounds Red Clover Seed.	
	15 "	Alsike "
	15 "	White "
	12 "	Swedish Turnips.

12 pounds	White Carrot Seed.
12 "	Mammoth Long Red Mangold Seed.
12 "	Yellow Globe.
24 "	Hungarian Grass Seed.
24 "	German Millet.
1 bushel	White Fife Spring Wheat.
12 pounds	Hemp Seed.
24 "	Buckwheat.
15 "	Prussian Blue Peas, cook green the year round.
28 "	Spring Rye.
1 bushel	Black Barley.
1 bale of	hops.

The above have been collected from the prize grain in different sections of the Province by myself and our Secretary, Mr. Wade.

All of which is respectively submitted.

JOSHUA LEGGE,

President.

Guelph, December 17th, 1884.

On motion of Mr. Morgan, seconded by Mr. White, it was proposed that the Fortieth Provincial Exhibition of this Association be held in the second week of September, commencing on Monday, the 7th, and closing on Saturday, the 12th, in the City of London.

Mr. Reid said that he was opposed to holding the Exhibition so early, and he considered it would be detrimental to the interests of agriculture in this Province. In the northern portions of the country at this early date the farmers would not have finished their harvest, thus preventing them from making exhibits and attending the show. He was in favour of the fourth week in September.

Mr. Morgan thought that it was time to make a change in the time of holding the Provincial, as at present they were always caught by the equinoctial gales, and that this year, being so far west, he thought the date would come in all right.

Mr. White thought it would be better to hold it one week later than by Mr. Morgan's motion, but they could not do that without conflicting with the second week of the Industrial. He thought perhaps it would be better to wait until the March meeting.

Mr. Reid then moved, seconded by Mr. Parker, that the motion for the time to be settled be laid over to the March meeting.

Mr. Parker said in the northern part of the country the harvest was late. He thought the question should be laid over to the March meeting.

Mr. Shipley said he was not in favour of postponing this matter. He considered that from the 7th to the 12th was better than the fourth week.

Mr. Snell said he was in favour of having the date fixed now. It would give the people time to consider the matter, and a full expression of opinion could be obtained by the next meeting.

Mr. Aylesworth said he had often heard the expression made, "What was the matter with you old fogies that you do not hold your show earlier." He said he was in a dilemma to know which was the best time, the second or fourth week, but thought on the whole the second week was preferable.

Mr. Reid said that there was an idea prevalent that the Association was not fulfilling its duty, that it was giving more attention to live stock than farm produce. They should aim to unite the farmers generally. He protested against holding the show so early, and wished his name recorded as voting against the second week.

The amendment of Mr. Reid's was lost, and the original motion of Mr. Morgan to hold the Exhibition on the second week was carried.

The Secretary then explained that he was now closing the ninth volume of the Canada Short Horn Herd Book, and that he thought it would be a great improvement if the cows were numbered as well as the bulls; he could commence with those in the ninth volume, also he was prepared to get up a complete alphabetical index of the cows in the whole nine volumes, as it would be a great help to parties searching for information.

On motion of Mr. Drury, seconded by Mr. Shipley, the suggestions of the Secretary were adopted.

Mr. Drury then presented the report of the Finance Committee recommending that various accounts amounting to the sum of \$266.48 be paid. This was carried.

A letter was read from John Hallam, Chairman of the Toronto Public Library, thanking the Council for the bequest of sixteen volumes of transactions and reports of this Council.

Moved by Chas. Drury, seconded by Mr. McKinnon, That in view of the intention of the Dominion Government to appoint a Commission from the Dominion of Canada to the Antwerp International Exhibition to be held in 1885, this Council do petition the Dominion Government to appoint the President, Joshua Legge, Esq., as such commissioner and that the Secretary do prepare and forward to the Hon. Mr. Pope said petition. Carried.

Moved by C. Drury, seconded by Mr. Snell, That the Hon. Mr. Ross, Commissioner of Agriculture for Ontario, be requested to appoint a commissioner to attend the New Orleans Exhibition, and that the Secretary of this Association be appointed as such commissioner, and that a petition be sent to the Ontario Government to that effect. Carried.

Moved by Mr. Drury, seconded by Mr. Morgan, That the President and Secretary are hereby authorized to execute any instrument which may be deemed necessary to vest the claim of the Association against Phillip Jamieson in respect of repairs and alterations at Agricultural Hall, Toronto, in the Government of Ontario, and to affix the seal of this Association thereto; provided, that the Government may, if it thinks fit, proceed in the name of this Association for the collection of the said claim. Carried.

It was moved and seconded that Mr. Ira Morgan be paid the sum of \$20 for visiting Mattawan, Pembroke, Almonte, Montreal and Ottawa, as requested by Executive Committee, to solicit exhibits for the Provincial Exhibition.

Mr. Morgan then moved, seconded by Mr. Drury, that the President now leave the chair and that the Vice-President, Mr. Moore, take it.

Moved by L. E. Shipley, seconded by D. McKinnon, That the thanks of the Council be given to Joshua Legge, President of this Association, for the very able and courteous manner in which he has acted as President during the past year. Carried.

Previous to the resolution being put, Messrs Shipley, Aylesworth, Morgan, McKinnon, Drury and Moore, all expressed their high appreciation of the manner in which the President had performed his duties during his term of office.

Mr. Legge, in replying, thanked the members of the Council for their flattering resolution and its kind expressions. He had also to extend to them his thanks for the courteous manner he had been treated by the Board. He had striven to do his duty as President of the Council, and the remarks which had fallen from the members were flattering indeed.

Mr. Drury moved, seconded by Mr. Morgan, That this Council now adjourn *sine die*. Carried.

HENRY WADE,
Secretary.

December 17th, 1884.

GUELPH, Nov. 8th, 1884.

Executive Committee of Fat Stock Show met at the Wellington Hotel, at 2 p.m.

Members present: Geo. Moore, J. E. Snell and H. Wade from the Agriculture and Arts Association, and Messrs. Whitelaw, John I. Hobson, Prof. Brown, M. Sweetman, J. W. Smart, A. E. Goodfellow, Robert Kirby and James Miller, from Fat Stock Club.

Mr. Whitelaw, the President, in the chair.

The Secretary read the minutes of the May meeting, which were confirmed.

Mr. G. Moore said that on account of so many fairs falling on the Tuesday, cattle should be admitted early on Wednesday morning. On motion that was carried.

The Secretary wished to know if the admittance prices were satisfactory, also, if he should prepare a catalogue. Both questions were decided in the affirmative.

It was resolved that poultry in class 14, should be drawn and dry picked. Judges were appointed and the Secretary requested to write to them.

Moved by Prof. Brown, seconded by Mr. Miller, That the judging commence on Wednesday evening, the 17th of December, at 7 o'clock p.m. Carried.

Moved by Mr. Hobson, seconded by Mr. Moore, That the Ontario Experimental Farm be allowed to hold a public sale in the building after the judging is completed, on Wednesday evening. Carried.

The meeting then adjourned, to visit the drill shed. On looking it was decided to erect an addition on the east side, which was afterwards done by the foreman and students of the Experimental Farm, by the directions of Prof. Brown, free of charge to the management.

At a more recent meeting of the Fat Stock Club, to meet the wants of some of the farmers, an additional section was opened giving an additional prize to fat heifers under three years of age: first, \$20; second, \$10; third, \$5. It was also resolved that a veterinary surgeon be employed to verify the ages of all cattle by examining their mouths. It was also resolved that Prof. Brown's class of students should be allowed to examine the animals on Thursday morning at 9 o'clock a.m. Also, that the Show be officially opened on Wednesday evening at 6.30 p.m., by the Mayor, etc.

HENRY WADE,
Secretary.

REPORT OF THE SECOND ANNUAL ONTARIO PROVINCIAL CHRISTMAS FAT STOCK SHOW.

HELD UNDER THE AUSPICES OF THE
AGRICULTURE AND ARTS ASSOCIATION OF ONTARIO AND THE
GUELPH FAT STOCK CLUB,

IN THE
CITY OF GUELPH, DECEMBER 17TH AND 18TH, 1884.

OFFICERS.

PRESIDENT	WM. WHITELAW, Guelph.
TREASURER	JAMES MILLER, "
SECRETARY	HENRY WADE, Toronto.
GENERAL SUPERINTENDENT ..	ROBT. A. KIRBY, Guelph.

COMMITTEE OF MANAGEMENT,

From the Agriculture and Arts Association of Ontario.

GEORGE MOORE	WATERLOO.
J. C. SNELL	EDMONTON.
J. B. AYLESWORTH	NEWBURGH.
L. E. SHIPLEY	GREYSTEAD.
D. P. MCKINNON	SOUTH FINCH.

From the Fat Stock Club of Guelph.

WM. WHITELAW, Esq.	GUELPH.
JOHN I. HOBSON, Esq.	"
ROBT. A. KIRBY, Esq.	"
PETER RENNIE, Esq.	"
WALTER WEST, Esq.	"
JOHN LAIDLAW, Esq.	"
JAMES TAYLOR, Esq.	"
JAMES ANDERSON, Esq.	"
J. W. SMART, Esq.	"
M. SWEETMAN, Esq.	"
THOMAS MANDERSON, Esq.	"
WALTER LAING, Esq.	"
GEO. HOOD, Esq.	"
A. ARMSTRONG, Esq.	"
HENRY GROFF, Esq.	"
JOHN PHIN, Esq.	"
GEO. S. ARMSTRONG, Esq.	"
Prof. WM. BROWN	"

Judges on Cattle.—William S. Williamson, Brampton; James Britton, Toronto; Thomas Allison, Galt; Hiram Rawlings, Ravenswood; John Hope, Brantford; Peter Rennie, Fergus.

CLASS I.—THOROUGHbred CATTLE.

SEC. 2.—*Steer, 2 and under 3 years.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animals.	Breed.
1	H. & I. Groff, Elmira	June 17, 1882	913	1910	2.09	Baron	Shorthorn.

First premium, \$30, to steer Baron, exhibited by H. & I. Groff, Elmira.

SEC. 3.—*Steer, 1 and under 2 years.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weights in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	H. & I. Groff, Elmira	Mar. 25, 1883	632	1445	2.28	Elmira Boy	Shorthorn.

First premium, \$25, to steer Elmira Boy, exhibited by H. & I. Groff, Elmira.

SEC. 4. *Cow, 3 years and over.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	J. & R. McQueen, Salem..	Oct. 15, 1873	4078	1975	.48	Barbara Allan.....	Shorthorn.
2	Richard Gibson, Delaware.	Oct. 15, 1878	2253			Gwynne Duchess 6th	do
3	John Fraser, Ayr	Oct. 30, 1872	4427	1435	.32	Golddays	do
4	L. O. Barber, Guelph	Sep. 22, 1880	1546	1597	1.03	Lady La Roy.....	do
5	Alex. Brockie, Fergus.....	Feb. 6, 1877	2868	1912	.66	Butterfly	do
6	Jas. Graham, Rockwood.....	Dec. 10, 1880	1467	1800	1.23	Mayflower 2nd	do

First premium, \$30, to cow Barbara Allan, exhibited by J. & R. McQueen, Salem.

Second premium, \$15, to cow Butterfly, exhibited by Alex. Brockie, Fergus.

Third premium, \$10, to cow Lady La Roy, exhibited by L. O. Barber, Guelph.

CLASS II. GRADE OR CROSS-BRED.

SEC. 1. *Steer, 3 and under 4 years.*

Entry No.	EXHIBITOR.	Date of Birth.	Age of days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Geo. S. Armstrong, Fergus	Apr. 7, 1881	1714	1920	1.38	Sandy	Shorthorn grade.
2	Thomas Joyce, Mansewood	Dec. 25, 1880	1453	3325	1.60	Halton Dick	do
3	H. & I. Groff, Elmira	Feb. 5, 1881	1645	3560	1.70	Dick	do
4	Stephen Hall, Washington	Apr. --, 1880				Dick	do
5	Walter West, Guelph	Mar. 15, 1881	1372			Dick	do
6	do do	May 14, 1881	1312	2015	1.91	Prince Albert	do

First premium, \$30, to steer P'dt., exhibited by H. & I. Groff, Elmira.

Second premium, \$20, to steer Sandy, exhibited by Geo. S. Armstrong, Fergus.

Third premium, \$10, to steer Halton Dick, exhibited by Thomas Joyce, Mansewood.

SEC. 2. *Steer, 2 and under 3 years.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1882.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
*1	Ontario Ex. Farm, Guelph	Oct. 6, 1882	863	1673	2.08	Heathfield	Hereford grade.
2	Geo. S. Armstrong, Fergus...	Oct. 22, 1882	786	1410	1.79	General Wolessley	Shorthorn grade.
3	John Kelly, jr., Shakespeare...	Mar. 10, 1882	1012	2105	2.08	John Cook	do
4	Jas. S. Armstrong, Speedside	Oct. 1, 1882	807	1400	1.73	Harry	do
5	Alex. Norrie, Paisley	June 28, 1882	902	...	...	General	do
6	H. & I. Groff, Elmira	Apr. 15, 1882	990	1590	1.70	Kmy	do
7	do do	Mar. 22, 1882	934	1970	1.91	Aberdeen	do
8	do do	Aug. 12, 1882	957	1605	1.66	Pat	do

First premium, \$30, to steer John Cook, exhibited by John Kelly, jr., Shakespeare.

Second premium, \$20, to steer Aberdeen, exhibited by H. & I. Groff, Elmira.

Third premium, \$10, to steer Pat, exhibited by H. & I. Groff, Elmira.

SEC. 3. *Steer 1 and under 2 years.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs., on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Ont. Ex. Farm, Guelph.....	Dec. 20, 1882	727	1585	2.09	The White Prince.	Shorthorn grade.
2	Geo. S. Armstrong, Fergus.....	Dec. 24, 1882	723	1255	1.73	Rodger.....	do
3	Jas. S. Armstrong, Speedside.....	Dec. 23, 1882	724	1255	1.73	Arthur.....	do
4	Alex. Norrie, Paisley.....	Jan. —, 1883	695			Prince Champion	do
5	Henry Clemens, Ravenswood.....	Mar. 5, 1883	647			Pride of Lambton.	do
6	H. & I. Groff, Elmira.....	Feb. 10, 1883	689	1836	2.65	Ranger.....	do
7	do do.....	Jan. 20, 1883	696	1375	1.98	Proud Boy.....	do
8	do do.....	July 5, 1883	544	1480	2.36	Roan Punch.....	do

First premium \$25 to steer Ranger, exhibited by H. & I. Groff, Elmira.

Second premium \$15 to steer Proud Boy, exhibited by H. & I. Groff, Elmira.

Third premium \$10 to steer Rodger, exhibited by Geo. S. Armstrong, Fergus.

* Ontario Ex. Farm stock were not on competition.

SEC. 4—Cow 3 years and over.

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	J. & R. McQueen, Salem.....	Apr. 17, 1880	1705	2380	1.39	Daisy	Shorthorn grade.
2	H. & S. Groff, Elmira.....	Jan. 15, 1881	1431	1880	1.31	Dora	do
3	Thomas Card, Marden.....	Apr. 15, 1874	5896	1650	.42	Fanny..	do
4	W. C. Smith, New Hamburg...	May 16, 1879	2040	1640	.80	New Hamburg Lass.	do

First premium \$30 to cow Daisy, exhibited by J. & R. McQueen, Salem.

Second premium \$15 to cow Dora, exhibited by H. & I. Groff, Elmira.

Third premium \$10, to cow New Hamburg Lass, exhibited by W. C. Smith, New Hamburg.

CLASS III.—SWEEPSTAKES FOR CATTLE.

SEC. 1. *Best Steer any age or breed.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Thos. Joyce, Mansewood.....	Dec. 25, 1880	1453	2325	1.60	Halton Dick.....	Shorthorn grade.
2	J. & R. McQueen, Salem.....	Mar. 25, 1880	1727	2390	1.38	Red Duke.....	Shorthorn.
3	John Kelly, jr., Shakespeare...	Mar. 10, 1882	1012	2105	2.08	John Cook.....	Shorthorn grade.
4	Jas. S. Armstrong, Speedside...	Oct. 1, 1882	807	1400	1.73	Harry.....	do
5	Alex. Norrie, Paisley.....	June 28, 1882	902			General.....	
6	Henry Clemens, Ravenswood...	Mar. 5, 1883	647			Pride of Lambton.	Shorthorn grade.
7	H. & J. Groff, Elmira.....	Feb. 5, 1881	1345	2350.	1.70	Pilot.....	do
8	do do	June 17, 1882	913	1910	2.09	Baron.....	Shorthorn.
9	do do	Mar. 25, 1883	632	1445	2.28	Elmira Boy.....	do
10	do do	Feb. 10, 1883	682	1830	2.65	Ranger.....	Shorthorn grade.
11	do do	Jan. 20, 1883	696	1375	1.98	Proud Boy.....	do
12	do do	Mar. 22, 1882	994	1970	1.91	Aberdeen	do
13	Stephen Hall, Washington....	Apr. 20, 1880	1587	2600	1.63	Dick	do
14	Alex. Norrie, Paisley.....	Jan. 22, 1883	695			Prince Champion ..	do
15	Jas. S. Armstrong, Speedside...	Dec. 23, 1882	724	1255	1.73	Arthur	do
16	Walter West, Guelph.....	Mar. 15, 1881	1372			Duke	do
17	Ont. Ex. Farm, do	Dec. 20, 1882	727	1585	2.09	White Prince.....	do
18	Geo. S. Armstrong, Fergus....	Apr. 7, 1881	1389	1920	1.38	Sandy.....	do

Premium \$30 to steer Ranger, exhibited by H. & I. Groff, Elmira.

SEC. 2.—*Best Female any age or breed*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	J. & R. McQueen, Salem...	Apr. 17, 1880	1704	2380	1.39	Daisy	Shorthorn grade.
2	Rich. Gibson, Delaware...	Oct. 15, 1878	2255			Gwynne Duchess 6th	do
3	John Fraser, Ayr	Oct. 30, 1872	4127	1435	.32	Gooddays	do
4	H. & I. Groff, Elmira	Jan. 15, 1881	1431	1880	1.31	Dora	do
5	L. O. Barber, Guelph	Sep. 22, 1880	1546	1597	1.03	Lady La Roy	Shorthorn.
6	Thos. Card, Malden	Apr. 15, 1874	3896	1659	.42	Fanny	Shorthorn grade.
7	John Tuck, Rockwood	Mar. 20, 1882	1003	1345	1.34	Snowdrop	do
8	Dan. Talbot, Exvton.	Feb. 22, 1882	1031	1550	1.50	Bonnie Lass	do
9	Wm. Smith, Eramosa	Apr. 6, 1882	985	1550	1.57	Mayflower	do
10	W. C. Smith, New Hamburg	May 16, 1879	2040	1640	.80	New Hamburg Lass.	do

Premium \$20 to cow Daisy, exhibited by J. & R. McQueen, Salem.

CLASS IV.—GRAND SWEEPSTAKES FOR ANY FAT BEASTS ON THE GROUNDS.

SEC. 1.—*Any age, breed, or sex.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, jr., Shakespeare.	Mar. 10, 1882	1012	2105	2.08	John Cook	Shorthorn grade.
2	Thos. Joyce, Mansewood....	Dec. 25, 1880	1453	2325	1.60	Halton Dick	do
3	J. & H. McQueen, Salem...	Mar. 25, 1880	1727	2390	1.38	Red Duke	Shorthorn.
4	do do	Apr. 17, 1880	1704	2380	1.39	Daisy	Shorthorn grade.
5	H. & I. Groff, Elmira.....	Jan. 15, 1881	1431	1880	1.31	Dora	do
6	L. O. Barber, Guelph.....	Sep. 22, 1880	1546	1597	1.03	Lady La Roy	Shorthorn.
7	H. & I. Groff, Elmira.....	Feb. 5, 1881	1345	2350	1.70	Pilot	Shorthorn grade.
8	do do	Mar. 22, 1882	994	1970	1.91	Aberdeen	do
9	do do	June 17, 1882	913	1910	2.09	Baron	Shorthorn.
10	do do	Mar. 25, 1883	632	1445	2.28	Elmira Boy	do
11	do do	Feb. 10, 1883	689	1830	2.65	Ranger	Shorthorn grade.
12	do do	Jan. 20, 1883	696	1375	1.98	Proud Boy	do

Premium, \$40, to steer Ranger, exhibited by H. & I. Groff, Elmira.

CLASS V. -SPECIAL.

SEC. 1.—*Carload of Animals that have not competed in any other Class.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Ontario Ex. Farm, Guelph . .	Apr. 9, 1882	1665	996		Huntingdon	
		Oct. 6, 1882	1650	803		Heathfield.	
		Oct. 28, 1882	1655	780		Hartford	
		June 24, 1882	1865	876		Aberdeen	
		June 27, 1882	1675	873		Abeyne	
		Dec. 15, 1881	1950	1097		Dudley	
		Mar. 10, 1882	1945	1012		Derby	
2	J. & R. Millar, Guelph . .	Mar. 16, 1882	1335	1006		Derby	
						Beauty	
						Belle	
						Pansy	
						Violet	
						Daisy	
						Rose	
						Blossom	
						Heather Bell	

First premium, \$30, to carload exhibited by J. & R. Millar, Guelph.

CLASS VI. SPECIAL BY THE SHORTHORN BREEDERS OF ONTARIO.

SEC. 1.—*Best Fat Shorthorn Steer or Cow, of any age.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breeds.
1	J. & R. McQueen, Salem . .	Mar. 25, 1880	1727	2390	1.38	Red Duke	Shorthorn.
2	do do	Oct. 15, 1873	4078	1975	.48	Barbara Allan	do
3	Richard Gibson, Delaware . . .	Oct. 15, 1878	2253			Gwynne Duchess 6th	do
4	John Fraser, Ayr	Oct. 30, 1872	4127	1435	.32	Golddays	do
5	John Tuck, Rockwood	Mar. 20, 1882	1003	1345	1.34	Snowdrop	do
6	H. & I. Groff, Elmira	June 17, 1882	913	1910	2.09	Baron	do
7	L. O. Barber, Guelph	Sep. 22, 1880	1546	1597	1.03	Lady La Roy	do
8	H. & I. Groff, Elmira	Mar. 25, 1883	632	1445	2.28	Elmira Boy	do

Premium, Silver Cup, to steer Red Duke, exhibited by J. & R. McQueen, Salem.

CLASS VII. -SPECIAL BY EMPIRE HORSE AND CATTLE FOOD COMPANY.

SEC. 1.—*Best herd of Fat Cattle for Shipping, herd to consist of three animals.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. at 1 year.	Age in days at 1 year.	Name of Animal.	Breed.
1	Ontario Ex. Farm, Guelph...	Mar. 16, 1882	1006	1815	1.83	Duchess	Shorthorn grade.
		Oct. 6, 1882	803	1700	2.05	Herford field	Herford grade.
		June 24, 1882	906	1700	1.87	Aberdeen	Aberdeen grade.
		Mar. 25, 1880	1797	1900	1.38	Red Duke	Shorthorn.
2	J. & R. McQueen, Salem.	Oct. 15, 1873	1075	1600	1.48	Barbara Allan.	do
		Apr. 17, 1880	1704	1880	1.39	Duchess	Shorthorn grade.
		Dec. 22, 1881	1311	1700	1.70	Baron	do
3	H. & I. Groff, Elmira...	Mar. 22, 1882	994	1970	1.91	Aberdeen	do
		June 17, 1882	913	1970	2.09	Baron	Shorthorn.

Premium, \$40, to herd exhibited by H. & I. Groff, Elmira.

CLASS VII $\frac{1}{2}$ —SPECIAL.

Size 1 Best Mother under 3 years, a day or bred.

Entry No.	EXHIBITOR.	Date of Birth.	Age and sex.	Weight in lbs. at birth.	Weight in lbs. at day of this year's birth.	Name of Animal	Breed.
1	John Tuck, Rockwood.....	Mar. 20, 1882	1063	1345	1.34	Snowdrop.	
2	Doc. Tidest, Eberton.....	Feb. 22, 1887	1031	1350	1.26	Bonnie Lass	
3	Wm. Smith, Eramosa.....	Apr. 6, 1882	985	1550	1.57	Mayflower...	

First premium \$20 to Heifer Bonnie Lass, exhibited by Dan. Talbot, Everton.

First premium \$20. Renée Bonnie Bass, exhibited by Dan. Farbot, Everton.
Second premium \$10 to leader Mayil we, exhibited by Wm. Smith, Brumosa.

Third premium \$5 to heifer Snowdrop, exhibited by John Tuck, Rockwood.

Journal of Statistical Science, G. F. Franklin, Toronto; E. Snell, Galt; P. Whetter, London.

CLASS VIII.—SHEEP, LONG WOOLLED.

SEC. 1.—*Wether 2 and under 3 years.*

Entry No.	EXHIBITOR.	Age in Days.	Weight in lbs. on 1 st Dec. 1881.	Weight in lbs. on 2 ^d Dec. 1881.	Name of Animal.	Breed.
1	John Rutherford, Roseville	1010	329	.32	Champion....	
2	do do	1005	320	.31	James Brown.	
3	do do	1001	310	.30	Robin Hood ..	
4	Jas. G. Wright, Guelph....	988	273	.27	Unbroken	
5	do do	980	302	.26	Doctor	

First premium \$15 to wether Champion, exhibited by John Rutherford, Roseville.

Second premium \$10 to wether Robin Hood, exhibited by John Rutherford, Roseville.

Third premium \$5 to wether James Brown, exhibited by John Rutherford, Roseville.

SEC. 2.—*Wether 1 and under 2 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, jr., Shakespeare.....	593	265	.44	Bob.....	Border Leicester.
2	Thos. Waters, Rockwood.....	605	257	.42	Blake.....	
3	do do.....	605	250	.41	Mowat.....	
4	John Rutherford, Roseville.....	600	224	.37	Lorne.....	
5	do do.....	609	220	.36	Rob Roy.....	
6	John S. Armstrong, Speedside.....	610	190	.31	Jim.....	

First premium to wether Blake, exhibited by Thos. Waters, Rockwood.

Second premium to wether Mowat, exhibited by Thos. Waters, Rockwood.

Third premium to wether Lorne, exhibited by John Rutherford, Roseville.

SEC. 3.—*Wether under 1 year.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, jr., Shakespeare.....	270	174	.64	Tom.....	
2	do do.....	273	160	.58	Dick.....	
3	Thos. Waters, Rockwood.....	240	160	.68	John A.....	
4	John Rutherford, Roseville.....	240	131	.54	Bob Hope.....	
5	A. & J. Brown, Galt.....	225			Tom.....	
6	do do.....	225			Jerry.....	

First premium to wether Dick, exhibited by John Kelly, jr., Shakespeare.

Second premium to wether Tom, exhibited by John Kelly, jr., Shakespeare.

SEC. 4.—*Ewe 2 and under 3 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, jr., Shakespeare.....	976	265	.27	Susie.....	
2	Thomas Waters, Rockwood.....	950	260	.27	Lady Blake.....	
3	do do.....	970	257	.26	Lady Mowat.....	
4	John Rutherford, Roseville.....	1069	295	.29	Queen of the Plains.....	
5	do do.....	997	290	.29	Jenny.....	

First premium \$15 to ewe Lady Blake, exhibited by Thos. Waters Rockwood.

Second premium \$10 to ewe Queen of the Plains, exhibited by John Rutherford, Roseville.

Third premium \$5 to ewe Jenny, exhibited by John Rutherford, Roseville.

SEC. 5.—*Ewe 1 and under 2 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, Jr., Shakespeare	598	260	.43	Betsy ..	....
2	John Rutherford, Roseville...	591	185	.31	Fannie ..	....

First premium \$15 to ewe Betsy, exhibited by John Kelly, jr., Shakespeare.
Second premium \$10 to ewe Fannie, exhibited by John Rutherford, Roseville.

SEC. 6.—*Ewe under 1 year.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Kelly, jr., Shakespeare	248	175	.70	Bella ..	....
2	do do	241	168	.69	Jess ..	....
3	Thomas Waters, Rockwood...	230	142	.61	Lady Macdonald.	....
4	A. & J. Brown, Galt.....	233	125	.52	Mabel.....	....

First premium \$10 to ewe Bella, exhibited by John Kelly, jr., Shakespeare.
Second premium \$5 to ewe Lady Macdonald, exhibited by Thos. Waters, Rockwood.

CLASS IX.—SHEEP MIDDLE WOOLLED.

SEC. 1.—*Wether 2 and under 3 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Robert Marsh, Richmond Hill	971	190	.19	Tom .....	....
2	do do	973	220	.22	Jerry .....	....
3	John Rutherford, Roseville	1050	280	.26	Moses Oats ..	....
4	do do	1050	273	.26	Jumbo .....	....
5	do do	981	235	.23	Heaslip.....	....
6	Jas. G. Wright, Guelph	985	290	.29	Lawyer .....	....
7	do do	990	325	.32	Tailor .....	....
8	do do	982	325	.33	Farmer .....	....
9	Geo. Patterson, Guelph				Saddle .....	....

First premium \$15 to wether Lawyer, exhibited by Jas. G. Wright, Guelph,
Second premium \$10 to wether Tailor, exhibited by Jas. G. Wright, Guelph.
Third premium \$5 to wether Farmer, exhibited by Jas. G. Wright, Guelph.

SEC. 2.—*Wether 1 and under 2 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Jas. Glennie, Guelph	590	206	.34	Oxford Grade	
2	do do	580	195	.33	Shropshire Grade	
3	John Rutherford Roseville	690	224	.32	Professor	
4	do do	640	215	.33	Shepherd	
5	do do	695	185	.26	Black Tom	
6	Jno. S. Armstrong, Speedside	610	185	.30	Jonathan	
7	do do	610	195	.31	Ned	
8	do do	612	160	.26	Lewis	
9	Geo. Patterson, Guelph				Mac	

First premium to wether Oxford Grade, exhibited by Jas. Glennie, Guelph.

Second premium to wether Shropshire Grade, exhibited by Jas. Glennie, Guelph.

Third premium to wether Black Tom, exhibited by John Rutherford, Roseville.

SEC. 3.—*Wether, under 1 year.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Robert Marsh, Richmond Hill	252	140	.57	Duke	
2	do do				Baron	
3	John Campbell, jr., Woodville	240	125	.52	Dramis	
4	John Rutherford, Roseville	233	160	.69	Oscar	
5	James G. Wright, Guelph	235	150	.63	Kang Almed	
6	A. & J. Brown, Galt	236	140	.50	Jack	

First premium, \$10, to wether Jack, exhibited by A. & J. Brown, Galt.

Second premium, \$5, to wether Oscar, exhibited by John Rutherford, Roseville.

SEC. 4.—*Ewe, 2 and under 3 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Robert Marsh, Richmond Hill	1033	185	.17	Beatrice	
2	John Campbell, jr., Woodville	960	211	.22	Lucetta	
3	John Rutherford, Roseville	1060	230	.21	Kate	
4	do do	1068	237	.22	Dolly	
5	John S. Armstrong, Speedside	250			Oxford Lass	
6	do do				Sally	
7	Andrew Mutrie, Oustic	1006			Biddy	

First premium, \$15, to ewe Lucetta, exhibited by John Campbell, jr., Woodville.

Second premium, \$10, to ewe Kate, exhibited by John Rutherford, Roseville.

Third premium, \$5, to ewe Beatrice, exhibited by Robert Marsh, Richmond Hill.

SEC. 5.—Ewe, 1 and under 2 years.

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	John Campbell, Woodville	608	213	.35	Nancy	
2	John Rutherford, Roseville	599	190	.31	Daisy	
3	Andrew Mutrie, Oustic	641			Bertha	

First premium, \$15, to ewe Nancy, exhibited by John Campbell, jr., Woodville.
Second premium, \$10, to ewe Daisy, exhibited by John Rutherford, Roseville.
Third premium, \$5, to ewe Bertha, exhibited by Andrew Mutrie, Oustic.

SEC. 6.—Ewe, 2 years and over.

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	James Glennie, Guelph	210	118	.56	Shropshire Bess.	
2	do do	300	137	.45	Shropshire Pure	
3	John Rutherford, Roseville	250	145	.58	Sally	
4	Andrew Mutrie, Oustic	255			Pegey	
5	A. & J. Brown, Galt	278			Lady Mac	

First premium, \$10, to ewe Sally, exhibited by John Rutherford, Roseville.
Second premium, \$5, to ewe Shropshire Pure, exhibited by James Glennie, Guelph.

CLASS X—SWEEPSTAKES FOR SHEEP.

SEC. 1.—Best wether any age or breed.

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Robt. Marsh, Richmond Hill	252	140	.57	Duke	
2	James Glennie, Guelph	596	266	.34	Oxford Grade	
3	John Kelly, jr., Shakespeare	593	265	.44	Bob	
4	John Campbell, Woodville	249	125	.52	Dramis	
5	Thos. Waters, Rockwood	605	257	.42	Blake	
6	John Rutherford, Roseville	1010	329	.32	Champion	
7	do do	600	224	.37	Louie	
8	do do	690	224	.32	Professor	
9	do do	695	185	.26	Black Tom	
10	John S. Armstrong, Speedside	610	185	.30	Jonathan	
11	Geo. Patterson, Guelph	982	325	.33	Farmer	
12	Jas. G. Wright, do				Sandie	

Premium \$15 to wether Farmer, exhibited by Jas. G. Wright, Guelph.

SEC. 2. — *Best ewe any age or breed.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Robt. Marsh, Richmond Hill	1033	185	.17	Beatrice	
2	Jas. Glennie, Guelph	300	137	.27	Shropshire Pure	
3	John Kelly, jr., Shakespeare	976	265	.27	Susie	
4	do do	598	260	.43	Betsy	
5	John Campbell, jr., Woodville	608	213	.35	Nancy	
6	do do	960	214	.22	Lucetta	
7	Thos. Waters, Rockwood	950	260	.27	Lady Blake	
8	John Rutherford, Roseville	250	145	.58	Sally	
9	do do	591	185	.31	Fannie	
10	John S. Armstrong, Speedside		250		Oxford Lass	
11	John Kelly, jr., Shakespeare	278	175	.70	Bella	

Premium, \$10, to ewe Nancy, exhibited by John Campbell, jr., Woodville.

The ewe Lady Blake, exhibited by Thos. Waters, of Rockwood, was allowed by the judges to be the fattest sheep on exhibition.

CLASS XI.—HOGS ANY BREED.

Judges on Hogs.—Frank Willson Jackson, Mich. U. S.; Jas. Featherston, Credit; Hiram Rawlings, Ravenswood.

SEC. 1.—*Barrow, 1 and under 2 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	J. & R. Millar, Guelph	660	505	.76	Dude	
2	Joshua Sisley, Richmond Hill	510	680	1.33	Peter	
3	John Alison, Galt	431	630	1.45	Sir John A	
4	do do	431	575	1.33	John 3rd	

First premium \$15 to barrow Sir John A., exhibited by John Alison, Galt.
 Second premium \$10 to barrow John 3rd, exhibited by John Alison, Galt.
 Third premium \$5 to barrow Dude, exhibited by J. & R. Miller, Guelph.

SEC. 2. *Barrow, under 1 year.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Geo. S. Armstrong, Fergus	230	385	1.67	Jeff	
2	J. & R. Millar, Guelph	340	350	1.02	Tom	
3	do do	340	360	1.05	Dick	
4	L. O. Barber, do	246	295	1.19	Gen. Tom Thumb.	
5	John Rutherford, Roseville	300			Cleveland	

First premium \$15 to barrow Jeff, exhibited by Geo. S. Armstrong, Fergus.

Second premium \$10 to barrow Gen. Tom Thumb, exhibited by D. O. Barber, Guelph.

Third premium \$5 to barrow Dick, exhibited by J. & R. Millar, Guelph.

SEC. 3. *Sow, 1 and under 2 years.*

Entry No.	EXHIBITOR.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	A. Franks & Sons, The Grange.	642	280	.43	Jemima	
2	W. T. Himes, Guelph	390	350	.89	Polly	
3	Jas. Graham, Rockwood	600	565	.85	Kate	
4	Thos. McCrae, Guelph	510	343	.67	Blackie	
5	do do	510	337	.65	Blanche	
6	Fred. Armstrong, Armstrong's Mills	343	517	1.50	Violet	
7	J. G. Snell & Bro., Edmonton	531	526	.99	Souvenir	
8	W. T. Haines, Guelph	700	520	.74	Sally	
9	John Alison, Galt	431	400	.92	Gracie	
10	do do	431	600	1.39	Jennie	
11	do do	431			Maud	

First premium \$15 to sow Jennie, exhibited by John Alison, Galt.

Second premium \$10 to sow Souvenir, exhibited by J. G. Snell & Bro., Edmonton.

Third premium \$5 to sow Jemima, exhibited by A. Frank & Son, The Grange.

SEC. 4. *Sow under 1 year.*

Entry No.	EXHIBITOR.	Date of Birth.	Age in days.	Weight in lbs. on Dec. 17th, 1884.	Average gain per day in lbs. since birth.	Name of Animal.	Breed.
1	Geo. S. Armstrong, Fergus	Apr. 15, 1884.	230	390	1.69	Bess	
2	J. & R. Millar, Guelph		340	370	1.08	Snowball	
3	A. Frank & Sons, The Grange		316	400	1.26	Grant	
4	L. O. Barber, Guelph		246	205	.83	Minnie Warren	
5	F. Armstrong, Armstrong's Mills		343	450	1.31	Pansy	
6	J. G. Snell & Bro., Edmonton.		354	415	1.20	Quality	
7	Wm. S. Armstrong, Speedside.		360	405	1.12	Content	

First premium \$15 to sow Quality, exhibited by J. G. Snell & Bro., Edmonton.

Second premium \$10 to sow Snowball, exhibited by J. & R. Millar, Guelph.

Third premium \$5 to sow Bess, exhibited by Geo. S. Armstrong, Fergus.

Judges on Poultry—James Goldie, Guelph; Wm. H. Doel, Toronto; Geo. Murton, Guelph; Geo. Tolton, Guelph.

CLASS XIII.—POULTRY.

SEC. 1.—*Best Turkey Cock (old)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	John Hewer, Guelph.
4	John Doran, Guelph.
5	James Anderson, Guelph.
6	Mrs. Thos. Card, Marden.
7	L. O. Barber, Guelph.

First premium, \$1.50, to Jos. Tomalin, Brampton.

Second " 1.00, John Doran, Guelph.

SEC. 2.—*Best Turkey Cock (young)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	John Hewer, Guelph.
4	Miss H. Young, "
5	Jas. Anderson, "
6	Mrs. Thos. Card, Marden.
7	Jas. Anderson, Guelph.

First premium, \$1.50, to Miss H. Young, Guelph.

Second " 1.00, Mrs. Thos. Card, Marden.

SEC. 3.—*Best Turkey Hen (old)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Jas. Anderson, do.

First premium, \$1.50, to Jos. Tomalin, Brampton.

Second " 1.00, to Jas. Anderson, Guelph.

SEC. 4.—*Best Turkey Hen (young)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Miss H. Young, "
4	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Mrs. Thos. Card, Marden.

Second " 1.00, to Miss H. Young, Guelph.

SEC. 5.—*Best Gander (old)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Jas. Anderson, "

First premium, John Hewer, Guelph.
 Second " Jas. Anderson, "

SEC. 6.—*Best Gander (young)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Jas. A. Jackson, Guelph.
3	John Hewer, "
4	Jas. Anderson, "
5	Mrs. Thos. Card, Marden.

First premium, \$1.50, to John Hewer, Guelph.
 Second " 1.00, to Jas. Anderson.

SEC. 7.—*Best Goose (old)*.

No.	EXHIBITOR.
1	Jas. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Jas. Anderson, "

First premium, Jas. Anderson, Guelph.
 Second " Jos. Tomalin, Brampton.

SEC. 8.—*Best Goose (young)*.

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Jos. A. Jackson, Guelph.
3	John Hewer, "
4	Jas. Anderson, "
5	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Jos. A. Jackson, Guelph.
 Second " 1.00, to Mrs. Thos. Card, Marden.

SEC. 9.—*Best Duck (old).*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Jas. Anderson, "

First premium, \$1.50, to Jas. Anderson, Guelph.
 Second " 1.00, to John Hewer, "

SEC. 10.—*Best Drake (young).*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	John Hewer, "
4	Jas. Anderson, "
5	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Miss H. Young, Guelph.
 Second " 1.00, to Mrs. Thos. Card, Marden.

SEC. 11.—*Best Duck (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	James Anderson, Guelph.

First premium, \$1.50, to James Anderson, Guelph.
 Second premium, \$1, to Joseph Tomalin, Brampton.

SEC. 12.—*Best Duck (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	John Hewer, Guelph.
4	James Anderson, Guelph.
5	Mrs. Thomas Card, Marden.

First premium, \$1.50, to Miss H. Young, Guelph.
 Second premium, \$1, to Joseph Tomalin, Brampton.

SEC. 13. — *Best Cock.*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	Mrs. Thomas Card, Marden.

First premium, \$1.50, to Mrs. Thomas Card, Marden.

Second premium, \$1, to Joseph Tomalin, Brampton.

SEC. 14.—*Best Cockrel.*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	John Hewer, Guelph.
4	J. W. Tyson, " "
5	J. W. Tyson, " "
6	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Mrs. Thos. Card, Marden.

Second " 1.00, to J. W. Tyson, Guelph.

SEC. 15.—*Best Hen.*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	John Hewer, Guelph.
3	Jas. Anderson, " "
4	Mrs. Thos. Card, Marden.
5	Jas. Anderson, Guelph.

First premium, \$1.50, to John Hewer, Guelph.

Second " 1.00, to Jas. Anderson, " "

SEC. 16. — *Best Pullet.*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	John Hewer, Guelph.
4	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Joshua Sisley, Richmond Hill.

Second " 1.00, to John Hewer, Guelph.

CLASS XIV. DRESSED POULTRY.

SEC. 1.—*Best Dressed Turkey Cock (old).*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	Jos. A. Jackson, "
4	John Hewer, "
5	Mrs. Thos. Card, Marden.
6	L. O. Barber, Guelph.

First premium, \$1.50, to Jos. A. Jackson, Guelph.

Second " 1.00, to Miss H. Young, "

SEC. 2.—*Best Dressed Turkey Cock (young).*

No.	EXHIBITOR.
1	Jos. Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	Miss H. Young, "
4	Jos. A. Jackson, "
5	John Hewer, "
6	Mrs. Thos. Card, Marden.
7	Mrs. Thos. Card, "
8	L. O. Barber, Guelph.

First premium, \$1.50 to Miss H. Young, Guelph.

Second " 1.00 to Miss H. Young, "

SEC. 3.—*Best Turkey Hen (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	James A. Jackson, "
4	L. O. Barber, "
5	John Hewer, "

First premium, \$1.50, to John Hewer, Guelph.

Second premium, \$1, to Miss H. Young, Guelph.

SEC. 4.—*Best Turkey Hen (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	Jos. A. Jackson, "
4	John Hewer, "
5	Mrs. John Card, Marden.
6	Mrs. Thomas Card, "

First premium, \$1.50, to Miss H. Young, Guelph.

Second premium, \$1, to Mrs. John Card Marden.

SEC. 5.—*Best Gander (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Jos. A. Jackson, Guelph.
3	John Hewer, " "
4	Mrs. John Card, Marden.

First premium, \$1.50, to Jos. A. Jackson, Guelph.

Second premium, \$1, to Jos. Tomalin, Brampton.

SEC. 6.—*Best Gander (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, " "
3	Jos. A. Jackson, " "

First premium, \$1.50, to Jos. A. Jackson, Guelph.

Second premium, \$1, to John Hewer, Guelph.

SEC. 7.—*Best Goose (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Jos. A. Jackson, Guelph.
3	John Hewer, " "
4	Mrs. John Card, Marden.

First premium, \$1.50, to Jos. A. Jackson, Guelph.

Second premium, \$1, to Mrs. John Card, Marden.

SEC. 8.—*Best Goose (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	Mrs. John Card, Marden.
4	Jos. A. Jackson, Guelph.

First premium, \$1.50, to Jos. A. Jackson, Guelph.

Second premium, \$1, to John Hewer, Guelph.

SEC. 9.—*Best Drake (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.

First premium, \$1.50, to Joseph Tomalin, Brampton.

Second premium, \$1, to John Hewer, Guelph.

SEC. 10.—*Best Drake (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	Miss H. Young, Guelph.
4	Miss H. Young, " "
5	John Hewer, " "
6	Mrs. John Card, Marden.
7	Mrs. Thos. Card, " "

First premium, \$1.50, to Miss H. Young, Guelph.
 Second premium, \$1, to Mrs. John Card, Marden.

SEC. 11.—*Best Duck (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.

First premium, \$1.50, to Joseph Tomalin, Brampton.
 Second premium, \$1, to John Hewer, Guelph.

SEC. 12.—*Best Duck (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Joshua Sisley, Richmond Hill.
3	Miss H. Young, Guelph.
4	Miss H. Young, " "
5	John Hewer, " "
6	Mrs. John Card, Marden.
7	Mrs. Thos. Card, " "

First premium, \$1.50, to Miss H. Young, Guelph.
 Second premium, \$1, to Miss H. Young, Guelph.

SEC. 13.—*Best Cock (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	Mrs. Thomas Card, Marden.

First premium, \$1.50, to Mrs. Thomas Card, Marden.
 Second premium, \$1, to Joseph Tomalin, Brampton.

SEC. 14. *Best Cock (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	Miss H. Young, "
4	John Hewer, "
5	Mrs. John Card, Marden.
6	J. W. Tyson, Guelph.
7	J. W. Tyson, "
8	Mrs. Thos. Card, Marden.
9	J. W. Tyson, Guelph.

First premium, \$1.50, to J. W. Tyson, Guelph.

Second premium, \$1, to Mrs. John Card, Marden.

SEC. 15.—*Best Hen (young).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	Mrs. John Card, Marden.
4	Mrs. Thos. Card, "

First premium, \$1.50, to John Hewer, Guelph.

Second premium, \$1, to Mrs. John Card, Marden.

SEC. 16.—*Best Hen (old).*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	John Hewer, Guelph.
3	Mrs. Thos. Card, Marden.

First premium, \$1.50, to Joseph Tomalin, Brampton.

SEC. 17.—*Best Display of Poultry.*

No.	EXHIBITOR.
1	Joseph Tomalin, Brampton.
2	Miss H. Young, Guelph.
3	Jos. A. Jackson, "
4	Mrs. John Card, Marden.
5	John Hewer, Guelph.
6	Mrs. Thos. Card, Marden.

Premium, \$5, to Mrs. John Card, Marden.

FINANCIAL RESULTS OF SECOND PROVINCIAL FAT STOCK SHOW HELD AT GUELPH IN 1884.

In cattle there were 53 entries, to which was paid in premiums....	\$595 00
“ sheep do 70 do	320 00
“ hogs do 27 do	135 00
“ poultry do 150 do	85 00
	<hr/> \$1,135 00

JAMES MILLAR, Treasurer, in account with the Agriculture and Arts Association, re
Fat Cattle Show, held in Guelph, Dec. 17th, 1884.

DR.

To cash, cheque from A. and A. Association	\$500 00
“ Guelph Fat Stock Club...	500 00
Dec. 17th, “ Gate receipts.....	111 00
“ 18th, “	124 63
“ Tickets Fat Stock Club...	60 50
“ entry fees.....	196 25
“ special prize, Jno. Hope..	100 00
“ Empire Cattle Food Co...	40 00
“ feed sold,	2 22
	<hr/> \$1,634 60
To cash balance paid by A. and A. Association.....	38 29
	<hr/> \$1,672 89

CR.

By cash paid for prizes	\$1,029 00
“ printing and advertising	196 65
“ judging	35 00
“ fitting up building.....	82 28
“ general expenses.....	189 96
“ special prize.....	140 00
	<hr/> \$1,672 89

Examined and found correct,

GEORGE ANDERSON, JR. }
HENRY WADE. } *Auditors.*

To the Council of the Agricultural and Arts Association.

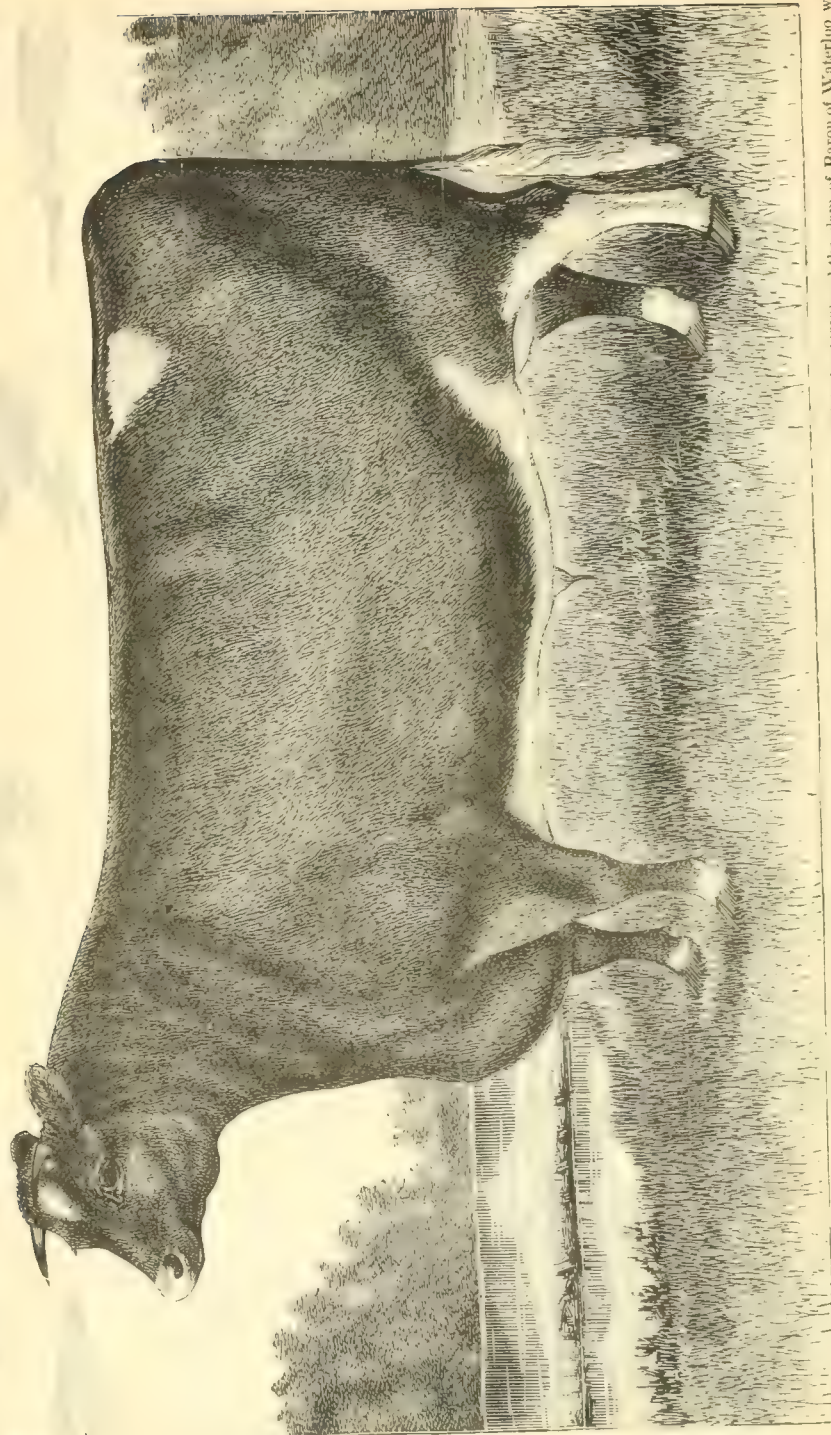
Having examined the papers on the Guelph Provincial Fat Stock show prepared by the students of the Ontario Agricultural College for prizes offered by your Association, we have the honour to report.

That three students competed, and after carefully reading the papers we recommend that the first premium be awarded to Mr. T. Rayner, the second to Mr. B. Robinson, and the third to Mr. C. M. Carlaw.

Respectfully submitted,

HENRY WADE,
A. BLUE.

AGRICULTURAL HALL,
Toronto, Jan. 28th, 1884.



RANGER is a short-horn grade of three crosses. He was bred and has been fed by ourselves. His sire being Baron of Waterloo (1873) and the dam of Baron of Waterloo was Red Rose of Waterloo, both bred by ourselves; both Baron and his dam were got by the same sire, proving clearly that the idea of inbreeding in some instances does not follow the general rule; both Baron and Red Rose of Waterloo were prize-winners at the Provincial Exhibition, Toronto, and the Western Fair, London. Baron stood at the head of the herd in 1882 at Provincial, Kitchener, and Industrial, Toronto, winning the Herd Prize at both places. Ranger himself as a yearling steer was exhibited at the Provincial Christmas Fair Stock Show, held at Guelph, 17th and 18th Dec., 1881, being then 689 days old, and weighing 1,830 lbs., showing a daily gain of 2.55 lbs., and won the following prizes in grades of crosses. In first class, under two, first; also, Sweepstakes Prize for the best ox or steer of any age; also, the Grand Sweepstakes Prize for the best beast in the show of any age, breed or cross. Ranger is at the present time seemingly keeping healthy and vigorous, and should achieve a very high position in the future.

CONDENSED REPORT OF SECOND ANNUAL CHRISTMAS FAT STOCK SHOW.

To which was awarded the first premium by the Agricultural and Arts Association.

The second Provincial Annual Christmas Fat Stock Show was held under the auspices of the Agricultural and Arts Association of Ontario and the Guelph Fat Stock Club in the City of Guelph, on December 17th and 18th, 1884.

GUELPH AS A CENTRE FOR SUCH A SHOW.

Guelph stands to Canada, as Smithfield to England, or Chicago to the United States, and has been justly styled "the Smithfield of Canada."

With the name Guelph, is associated in the mind of the farmer, breeder, or butcher, that the district surrounding this city, is particularly noted for its herds of fine cattle, and justly so; if one doubts it, he has only to attend one of her cattle fairs to convince himself, fully, that it is a reality. It was stated at the formal opening of this exhibition by one of the speakers that fully one third of the thoroughbred cattle, and he believed one-tenth of the store fed cattle shipped from Ontario were owned in the County of Wellington. This together with the fact that the Ontario Agricultural College is situated near the city, thus affording the young men attending the college an opportunity of getting some invaluable hints and lessons in the handling, feeding, and managing of such a fine display of live stock as was present at the exhibition this year; and what better way to spread the fame of the live stock interest of this Dominion could be got, than by the students of the Ontario Agricultural College.

WHAT STRUCK THE CAREFUL OBSERVER.

On entering he saw the very spacious and well-lighted and commodious building, decorated with evergreens, banners and other appropriate things; the saw-dust floor frozen with ice, making a grand floor for the animals to walk upon; then glancing his eye to the right, it fell upon a grand display of dressed poultry, neatly arranged on tables, and their living *congrères* ranged against the wall around them; turning to the left a grand array of fat cattle from yearlings up to four year olds, ranged round the walls on the west, north and east sides of the building, presented themselves to the public gaze, while straight to his front he sees a long aisle, not so well lighted in the day as at night, studded on either side with stalls and pens, and the whole decorated with evergreens, which proves on closer examination to be a temporary shed erected for the occasion, for greater accommodation to the exhibitors.

Equipped with a catalogue, he glances at the number on it, and the number strung on a wire behind the animal under inspection, and he is able to tell at once its name, owner, place where owned, age in days, weight at date (the management having erected scales within the building for the purpose) and average gain per day since birth, all of which bespeak careful and thoughtful management on the part of the officials. Passing by some fine animals, the exhibits of Messrs. Armstrong, West and others, he comes to H. & I. Graft's exhibit, consisting of eleven head of very fine cattle, the largest exhibit, save one, viz., that of the Ontario Experimental Farm which shows twelve head. Among them pre-eminent for size, stands a jumbo of cattle, being a four year old and weighing 3200 lbs. He was about six feet high and eleven feet from head to tail. With such a size one could not expect much symmetry of form or flesh. He was somewhat leggy and the flesh a little patchy. The rest were a fine lot of animals, as the red, white and blue ribbons, a lion's share, hanging on the wires after the judging took place, indicated. They all show careful management and good feeding.

The visitor is next introduced to the Ontario Experimental Farm display, already referred to, and which calls forth much of his admiration; for he here sees what he is not accustomed to look at, the representatives of the three great beefing breeds of the world, viz., the grades of the Shorthorn, Hereford, and Aberdeen or Angus Poll, which, had they competed for the prizes would, no doubt, have carried off a fair share of them.

He now turns down this long shed, and on either side he beholds more beautiful, attractive, and well fattened cattle; especially noticeable is the trio of J. & R. McQueen, another name familiar in connection with Fat Stock Shows. Moving on, he comes to pens containing sheep. Here again he finds his catalogue of the same use as before. However, if he has some acquaintance of the different breeds, he sees that they are for the most part Lincoln, Leicester, and Cotswold grades in the long-woolled class, and Oxford and Shrops grades in the middle-woolled class. Just below the sheep, on either side, were to be seen the fat hogs; they represented the Berkshire, Essex, and Suffolk breeds.

Retracing his steps to the main building, and turning to his left, he comes upon Messrs. J. & R. Millar's exhibit, a car-load of shipping animals, consisting of eight Shorthorn grade heifers, all of them about the same size. Finally, he reaches the very large and splendid exhibit of live and dressed poultry.

He has now reached the end of the show, and a few sober reflections make him exclaim: "Well, well, I never saw the like before, and the management deserve to be complimented for their efforts and success, in affording so much convenience to exhibitors and pleasure to visitors."

THE JUDGING

Although visitors were admitted early in the afternoon, the show was not formally opened until seven o'clock p.m., when Mr. Whitelaw, the President of the Guelph Fat Stock Club, with several other gentlemen, among whom were Messrs. McKinnon, Snell, Moore, Shipley, Hobson, and Wade, of the Agricultural and Arts Association; Hon. A. M. Ross, Commissioner of Agriculture; James Innes, M.P., James Laidlaw, M.P.P., J. F. Frankland, Profs. Brown and Mills, of the O.A.C., and others, appeared upon the platform.

The President made some appropriate remarks, and on retiring to his seat called upon the Hon. A. M. Ross to address the visitors, amid the cheering of his hearers and the hearty encoring of the poultry. Mr. Ross responded in his usual energetic style, and Mr. Frankland, one of the shippers from the Queen City, was next called upon. He threw out some able and instructive remarks, concerning the fat cattle of this Province generally, after which it was announced that the time for judging to commence was fully up.

The judging of the cattle seemed to create the greatest interest, and among those who crowded round the spacious ring to see the splendid animals for competition in the various classes was a good sprinkling of the fair sex. The excitement round the ring seemed to increase as the competition in some of the classes grew warmer, and there was a keen contest in several cases, as the sparring among the judges indicated.

The ring was first graced with the presence of Baron, a thoroughbred Shorthorn steer, entered in class 1, sec. 2, thoroughbred steer 2 and under 3 years. There was no competition, and the first prize was awarded to him.

Baron, a beautiful red, the property of H. & I. Groff, of Elmira, was 913 days old, weighed 1,910 lbs., and made an average gain of 2.09 lbs. per day. His most noticeable features were, a fine head, a soft silky coat of hair, both of which points indicate to the feeder a disposition to lay on flesh rapidly and a grand constitution, in fact, his fore-quarters were well developed; his most prominent weakness was in his hindquarters, which were a little narrow, noticed by his standing somewhat inhocked.

In Class 1, Sec. 3.—Thoroughbred Steer, 1 and under 2 years, Elmira Boy, owned by H. & I. Groff, carried off the red ribbon, there being no competition in this section either.

"Elmira Boy," aged 632 days, weighing 1445 lbs., and giving the remarkable gain of 2.38 lbs. per day, a feature which is greater in younger animals than older ones, was covered with red, soft silky hair, having a tendency to curl, which denotes a rich "subsoil." His good points were many, having a fine head, shoulder well covered, well sprung rib, full flank, and twist well let down; but he was a little slack in the crops, and not so well ribbed home as is desired, as a long loin indicates a more or less weak back.

Class 1, Sec. 1.—Thoroughbred cow, 3 years and over. In this section there were four entries. The prize animals were:—

NAME.	Age in days.	Weight at date, lbs.	Average daily gain.	Exhibitor.	P. O.	Premium.	Amount.
Barbara Allan.	1678	1975	1.48	J. & R. McQueen, Salem.	1st.		\$30.
Betty.	2860	1917	1.38	A. B.	2nd.		\$15.
Lady LaRue.	1546	1697	1.03	L. O. Barber.	Guelph.	3rd.	\$10.

"Barbara Allan" was a deep red, even and well developed, and carried one of McQueen's new milk pails.

In Class 2, Sec. 1.—Grade or Cross, any breed, steers 3 and under 4 years. Four entries.

NAME.	Age in days.	Weight at date, lbs.	Average daily gain.	Exhibitor.	P. O.	Premium.	Amount.
Pilot.	1645	2350	1.70	H. & I. Groff.	Elmira	1st.	\$50.
Sandy.	1714	1920	1.38	Geo. S. Armstrong.	Fergus	2nd.	\$20.
Halton Dick.	1453	2325	1.60	Thos. Joyce.	Mt. Pleasant	3rd.	\$10.

"Pilot" was a large roan, a fairly even animal, but was much better developed in his hindquarters than in front, being broad across the loins which were well covered with a fine quantity of beef, a full flank and well set down in the twist, all of these being number one points in the butcher's eye; faulty in his bare shoulder, slackness in the top, and flabby brisket.

"Sandy" was also a large roan, but much better developed in his forequarters than hind, being just the reverse of Pilot; hence, Pilot had the meat where the butcher wants it most.

"Halton Dick" was a large, well proportioned steer, but was deficient in primeness.

Class 2, Sec. 2.—Grade or Cross, any breed, 2 and under 3 years. Seven entries.

NAME.	Age in days.	Weight at date, lbs.	Average daily gain.	Exhibitor.	P. O.	Premium.	Amount.
John Cook.	1012	2105	2.08	John Kelly, Jr.	Shakespeare	1st.	\$50.
Aberdeen.	994	1970	1.91	H. & I. Groff.	Elmira	2nd.	\$20.
Pat.	957	1695	1.66	Do.	Do.	3rd.	\$10.

There was a keen competition here, and after considerable searching among the judges, first place was awarded to H. & I. Groff's "Aberdeen." This was by oversight. A protest was entered against this decision, and next day under a better light it was reversed in favour of Kelly's "John Cook," by a ballot of four to one of the judges.

"John Cook" was a large, light roan, whose whole contour bespoke evenness, being well covered with flesh of a fine handling quality, especially all along the back where the

high priced meat lay, as every butcher knows; and here is where he beat "Aberdeen," a slightly darker roan, quite symmetrical, hard to beat behind, but not so well covered on the loins and rumps as "John Cook," his equal, however, in handling.

"Pat," a deep red, was characterized by a fine head, grand constitution and full crops, but was a little in-hocked, presenting narrowness in his hindquarters.

Class 2, Sec. 3.—Grade or Cross, any breed. 1 and under 2 years. Seven entries.

NAME.	Age in days.	Weight at date, lbs.	Average daily gain.	Exhibitor.	P. O.	Premium.	Amount.
Ranger.	675	1830	2.65	H. & I. Groff.	Elmira.	1st	\$25.
Proud Boy	544	1375	1.98	Do.	Do.	2nd	\$15.
Arthur	721	1255	1.73	Jas. Armstrong.	Speedside.	3rd	\$10.

Here we were first introduced to the "Red Ribbon Ranger," a beautiful deep red, which at once filled the observer's eye with his whole symmetry of form, embodying a fine head with a mild, placid eye, and almost speaking ear, grand constitution, fine top line, well sprung rib, and the evenness with which the flesh was laid on the different parts, hiding any unevenness. This remarkable yearling, with an average gain per day of 2.65 lbs., if he keep on increasing at this rate, what record may he not attain to? He is no doubt a marvellous example of 'early maturity,' that prominent characteristic of the Shorthorn breed of cattle.

Class 2, Sec. 4.—Grade or Cross, any breed. Cow, 3 years and over. Five entries.

NAME.	Age in days.	Weight at date, lbs.	Average daily gain.	Exhibitor.	P. O.	Premium.	Amount.
Daisy	1705	2380	1.39	J. & R. McQueen.	Salen.	1st	\$30.
Dora	1431	1880	1.31	H. & I. Groff.	Elmira	2nd	\$15.
N. Hamburg Lass.	2040	1670	.80	W. C. Smith.	N. Hamb'g	3rd	\$10.

Another very close competition was here; but after considerable consulting and comparing between Daisy and Dora, Daisy's better qualities won the decision of the judges in her favor for first position. She is a light roan heifer, low set, of a form unassailable, with massive width and depth of chest, very full crops having a girth of 9 ft. 4 in., ribs well sprung, wide strong loins, and flesh, — one seldom sees so fat a beast — and withal so evenly distributed. Dora, a much lighter roan, also low-set, was no mean opponent, splendid contour, very broad across the loins; but not so prime as Daisy, nor was her flesh so evenly laid on, tending in some places to patchiness, especially over the pin bones where the fat resembled two oil sacks.

New Hamburg Lass, a deep red, was characterized by a fine head, well sprung rib, and well let down behind. She was not so prime as the other two, and quite bare on the shoulder.

Class 3, section 1.—Sweepstakes for cattle. Best steer, any age or breed.

In this section, of sixteen entries, the "Red Ribbon Ranger" is led up to the head of the line, and has the honours of the red ribbon laid across his graceful neck, which means to his owners (H. & I. Groff) \$30.

Class 3, section 2.—Sweepstakes for cattle. Best female, any age or breed.

This section is also well represented with eleven entries, and the beautiful Daisy carries off the honours, a \$20 premium to her exhibitors, J. & R. McQueen.

In Class 4, section 1.—Grand sweepstakes for best fat beast on the grounds, any age, and of sex. Ranger is again provided for the highest honours of the show. His remarkable weight and average gain per day for his age, speak so strongly for him, that the judges gave to yield to their pleadings, awarding him a third red ribbon, and this time he brings \$10 into the pocket of his owner—Heifee hon. and Ranger.

Just here the judging of the cattle was postponed until the following day, and the sale of the Ontario Experimental Farm fat cattle commenced. It was getting on in the evening (nine o'clock), and some of the spectators began to withdraw, thus leaving more comfortable standing room about the ring.

Mr. J. A. Taylor, the auctioneer, took his place in the ring and the animals, brought in, one by one, were sold without reserve to the highest bidder, and gave the following results:

Name.	Grade of Breed.	Age in days.	Weight at date.	Average daily gain.	Price.	Purchaser.	Post Office.
Dudley.....	Shorthorn.	1097	1950	1.80	\$121	Stephen Hall...	Blenheim.
Dugby.....	"	1006	1845	1.83	122	G. Clayton...	Guelph Tp.
Derby.....	"	1012	1945	1.91	126	L. O. Barber.	Guelph.
White Prince...	"	727	1525	2.09	130	Wm. Hope...	Bow Park.
Lady Olive.....	"	656	1345	2.06	81	H. J. Laurie..	Milton.
Aboyne.....	A. A. Poll.	873	1675	1.87	100	Thos. Alison..	Galt.
Huntingdon.....	Hereford.	996	1665	1.67	112	M. Dingle....	Milton.
Hartford.....	"	803	1655	2.11	151	C. Satchell...	Ottawa.

We find here the three greatest beefing breeds in the world represented, viz.: the Shorthorn, Hereford and Aberdeen Poll, all of which show more or less the characteristics of the breeds to which they belong. The large early matured frame of the shorthorn, the low-set, deep and compact build of the Hereford, and the long, even and well tucked-up form of the Angus Poll. All of them reflect creditably upon the feeding capacity of the Ontario Experimental Farm, and show in a marked degree that particular merit in stall-feeding animals which Prof. Brown has so strenuously advocated, namely, early maturity.

Some of these animals possess particular features of their own. The White Prince, that overgrown boy, very evenly built and overlaid with a fine quality of flesh, the heifer Lady Olive, with very small bone, so graceful in action, and beautiful in outline, what a tender roast she will make! While the Aberdeen Poll grade, Aboyne, characterized by his long, well tucked up barrel, covered with a grand quality of flesh in the most valuable parts, and by his primeness which like one of his mates, Abernethy, slaughtered at the late Chicago show, standing first in his class and making a record of 65% after shrinkage, would shrink but little after killing; and Hartford, the Hereford grade, a model steer in many respects, being very compact and evenly covered with a splendid handling quality of meat went to Ottawa, to grace His Lordship the Governor General's Xmas dinner. Some very important lessons could be learned by the thoughtful feeder, or breeder, from a close comparison of these different animals,—as how one breed excelled the other in early maturity, least offal, condition, quality, or primeness, *i.e.*, the greatest weight of flesh produced under like feeding and management.

It is found on striking an average of the figures in the above table, that the average age is 896 days, weight 1,700 lbs., making the average gain per day of the eight head no less than 1.89 lbs., while the average gain per day of the 32 head of the top animals at the Chicago Fair this year was only 1.78 lbs.

The prices, considering the animals for sale, and the time of the year, were thought by a good many to be rather low, being on an average a fraction over 7c. per lb. live weight.

THURSDAY, December 18th, 1884.

This day broke forth clear and cold, but pleasant. At an early hour quite a number of visitors, chiefly farmers from the district, had gathered in the building to examine the exhibits. The judging which was laid over the previous evening, was now resumed at half past nine a.m.

The judges were now introduced to the animals competing for the special prizes.

In Class 5, section 1, Special.—Carload of animals that have not competed in any other class. There was no competition, and the first premium was awarded to J. & R. Millar, for their eight Shorthorn grade heifers, having an average age of 845 days, weighing 1,320 pounds, and giving an average gain per day of 1.56 pounds, rather on the light side for shipping.

In Class 6, section 1.—A special prize was given by the Shorthorn Breeders of Ontario, for the best fat Shorthorn steer or cow, of any age. The prize, a handsome silver cup, valued at \$100, and presented by John Hope, Esq., of the Canada West Farm Stock Association, on behalf of the Shorthorn breeders of Ontario, was won last year by H. & I. Groff, with their sweepstakes Champion. However, to become the permanent property of its winner, he must win it two years in succession. This year, although well contested for by H. & I. Groff with their thoroughbred steer Baron, the judges awarded it to J. & R. McQueen, for their in-and-in bred Shorthorn, Red Duke, who, by the way, was in competition for it last year. He is a very large and extremely fat steer, liable to create a little suspicion from the large pair of horns he supports on his, by no means, course head. He is a very even animal, characterized by his very full crops, having a one foot girth, and so prime that it tended to considerable flabbiness. His age was 1,727 days giving a weight of 2,390 pounds, an average gain per day of 1.38 pounds, and his winning the prize was doubtless due to not taking age in consideration by the judges in their decision, Baron having a decided advantage here.

In Class 7, section 1, which was a special prize given by the Empire Horse and Cattle Food Company, of Mitchell, Ontario, for the best herd of fat cattle for shipping, said herd to have been fed on food seasoned, exclusively with this condiment, for four months previous to showing, there were two entries, Messrs. H. & I. Groff, and J. & R. McQueen, with their trio, Daisy, Red Duke, and Barbara Allan, which were considered by the judges too fat to stand a long journey, hence, the premium of \$40 was awarded to H. & I. Groff's herd.

Class 7 1-2, section 1, special.—Best heifer, under three years, any age or breed.

NAME.	Age in days.	Weight at date.	Average gain per day.	Exhibitor.	Place.	Premium.	Amount.
Bonnie Lass	1031	1550	1.50	Daniel Talbot	Everton.	1st	\$20
May Flower	985	1550	1.57	Wm. Smith	Eramosa...	2nd	10
Snowdrop	1005	1345	1.34	John Tuck	Rockwood.	3rd	5

At first sight, the third prize animal was singled out; but between the other two a close contest was evident, which it proved to be from the length of time it took the judges to agree. Bonnie Lass, one of the competitors, was a well shaped roan, with a comparatively long barrel, and flesh evenly distributed over her *superficies*, especially the loins and rumps, and here is where she surpassed Mayflower, a deep red, larger boned and more compact than Bonnie Lass. Mayflower had a fine centre rib cut, but was quite bare on the loins and rumps, a great weakness from a butcher's standpoint, however she was three months younger, and this weighed strongly in her favour, but not enough to counterbalance the better features of Bonnie Lass.

SHEEP.

The sheep exhibit was a great success, both as regards quantity and quality. Competent judges, of which there were many, said that it was the largest and finest lot of fat sheep they had ever seen at any one time. The judges must have been put to their wits' end many times to decide between such a fine display as entered some of the classes for competition, especially for the sweepstakes in fat wethers and ewes respectively, there being thirteen entries in the former, and eleven in the latter, among them the first prize animals in the other classes; and to make it still more difficult, the crosses of one breed were entered against the crosses of others.

In the long woolled classes there were Lincoln, Leicester, and Cotswold grades, while the middle woolled classes were represented chiefly by the Shrops, Oxford, and South Down grades.

HOGS.

This class of fat animals was well represented both in numbers,—there being twenty-six entries,—and specimens. To give some idea of the latter, one had only to look at Jno. Allison's lot of five Berkshires, averaging 540 lbs. per head, and 451 days old, or Geo. S. Armstrong's pen of two Berkshire pigs, each of which carried off a prize.

The breeds represented for the most part were, Berkshire, Essex, and Suffolk. The best hog on the ground weighed 689 pounds at 519 days of age, while making an average of twenty-four head. It is found that the average age is 418 days, with a weight of 436 pounds, showing an average daily gain of 1.04 pounds.

The chief exhibitors were Jno. Allison, Galt, five head; J. R. Millar, Guelph, four head; Thos. McCrae, L. O. Barber, and W. T. Haines, Guelph; Geo. S. Armstrong, Fergus; and J. G. Stuck & Bro., Edmonton, each of them two head.

POULTRY.

Here there was a magnificent array of dressed and living poultry, consisting of turkeys, geese, ducks, and various breeds of fowls. There were eighty entries in the former class and seventy in the latter.

The judges must have had a difficult task, both from the number of exhibits and the close competition; but the red, white, and blue ribbons lying on the dressed poultry, or tied to the cages of the living, showed that they had done the work discreetly.

In this line Joseph Tomalin, Jno. Doran, Miss H. Young, Jas. Anderson, Mrs. T. Card, and John Hewer, were the chief exhibitors.

Mr. L. O. Barber, Guelph, bought up nearly the whole of the dressed poultry, paying on an average \$1.80 a piece for geese, and from 14 cents to 15 cents per pound for turkeys; while Mr. John Deans, specialising a little, bought up \$50 worth of the live poultry, paying about 12 cents per pound live weight, and sold them again at a profit.

SOME NOTICEABLE FEATURES OF THIS SHOW.

The first thing that struck one was, that in the cattle exhibit they were all Short-horns, or Shorthorn grades, except in the Ontario Exhibit Farm display, where the Hereford and Aberdeen Poll breeds were sparingly represented, but well enough to make a favourable impression. The thoughtful observer, enquiring into the matter, comes to the conclusion that it is on account of that predominant characteristic of the Shorthorn race of cattle, namely, early maturity. This was nowhere so well marked as in the herd of H. & I. Groff, prominently standing out in the "Red Ribbon Ranger," a remarkable yearling, weighing, as we have seen, 1,830 pounds, and giving an average daily record of 2.65 pounds per day. Now, we naturally ask, what is the cause of this rapid gain? and may it not be accomplished in any other breeds beside the Shorthorn? To the latter question, the Guelph Fat Stock Show says no, the late Chicago Fair says yes, and so does the Ontario Experimental Farm Exhibit. Now, the query is, what is the first question (which is another way of putting early maturity)? The phrase alone (*L. matunis-ripe*) explains itself, but not altogether when the animal is taken into consideration. It is the full development of an animal in as short a time as

possible; and as the quality of the flesh produced depends upon the quality of the food administered, we have the whole thing in a nut shell: it is the skilful feeding of such food, as will produce twice the weight at twenty four months as will be produced in forty-eight months with unskilful feeding on the same food. To the second question we referred to the late Chicago Fair, where we find, in giving an account of the slaughtered animals, that in Class 2, over two years and under three, Abernethy an Aberdeen Poll grade steer, fed at the Ontario Experimental Farm, stood at the head of his class, percentage of carcass being sixty-six per cent.

Again, in Class 3, for yearling steers, another A. A. Poll grade, leads in his class, percentage of carcass also sixty-six per cent. While in the fourth class of steers under one year, a Hereford grade is the champion of his class, with a percentage of carcass of sixty per cent., and an average gain per day of 2.97 pounds. Then, if we turn to the farm display, we get another answer, where we find that the two Hereford grades sold at the sale, aged 803 days and 780 days respectively, gave an average gain per day of over two pounds, and the Aberdeen Angus Poll grade, 875 days old, gave an average of 1.87 pounds gain per day; while with the average age of the three oldest Shorthorns of 1038 days, there was only a corresponding gain of 1.84 pounds per day. If this be true, which has been proved beyond a doubt, and these facts can be taken as a criterion, why not have these other breeds represented in our fat stock show ring? Let those who are warm on these breeds try what they can do. Another feature was the marked difference in the handling qualities of the different animals, that soft, gentle elastic touch, tending almost to flabbiness in some cases, indicative of a soft diet (digested without much work on the part of the animal's stomach), to the feeder, and of considerable shrinkage to the butcher, on the one hand, as against that hard, springy touch, which indicates the feeding of solid food, and little shrinkage, on the other hand.

COMPARATIVE NOTES.

Gentlemen who visited both the Toronto Fair last year and the one held at Guelph this year, tell us, that on a whole, the show of 1884 was in advance of the one held in 1883, the exhibit in cattle being about equal, in sheep, pigs and poultry, excelling it greatly, while in accommodations, there is little or no comparison, those at Guelph being so much better.

In comparing it with the late Chicago Fair, it will be found that it holds its own in many respects. Although our cattle exhibit was not nearly so large as theirs, yet Canada has much reason to feel proud, because that some of the best animals at that show were owned and exhibited by gentlemen from this country. In sheep, we are informed that there were eleven more entries in ours than theirs, and as for poultry they surely could not have had a much better one. Striking an average of their prize animals and ours, it was found at Chicago that of the thirty-two prize animals there the average age was—

1884	Average age in days.	Average weight.	Average gain per day.
At Chicago, 32 prize animals	906	1617	1.78
At Guelph, 19 "	1405	1869	1.33

What do these figures show? They show that there were more younger animals among their prize animals than among ours, and hence, as early maturity is more marked in younger animals than older ones, this, together with the larger number of them, will account for the greater average in gain per day, while ours, although considerably older, show a corresponding larger weight, and a big gain per day, considering.

BENEFITS OF FAT STOCK SHOWS.

No one doubts the usefulness to the country of our Agricultural Exhibitions, held in the autumn season; neither will there be any doubt in the mind of the thoughtful observer, that there are many valuable lessons to be learned by breeders, feeders and visitors who attend Fat Stock Shows.

Breeders may gain information by seeing what can be done with the different breeds of cattle, sheep and pigs, and by showing them what breeds of these classes it will be the most profitable to raise for fattening purposes. The feeder benefits by them in the interchange of ideas with other feeders, as to the best methods of feeding, and managing to get the cheapest and most rapid production of beef.

They are of use to the visitor, in that they increase his desire to raise better animals than heretofore, or to have better beef for his own use, according to his occupation.

It is here that the young farmer may go away much wiser than when he came, by observing, handling, and thinking over what he has seen.

And finally, such exhibitions show what good blood, feed, and management are able to do; what we, as a country, in comparison with other countries, can do in this line of industry, and tends to give the agriculturist generally, a greater desire to seek the benefits and wealth which the judicious feeding of live stock supplies.

I am, Sir, the honour to be,

Your obedient servant,

T. RAYNOR.

Ontario Agricultural College, December, 1884.

REPORT OF FAT STOCK SHOW.

To which was awarded the Second Prize of the Agricultural and Arts Association.

The second annual Ontario Provincial Fat Stock Show was held in the city of Guelph, December 17th and 18th, 1884, under the auspices of the Agricultural and Arts Association of Ontario and the Guelph Fat Stock Club.

The exhibition was held in the Drill Shed, to the rear of which was built a long annex with stalls on either side for cattle, sheep and pig. The main building was tastefully decorated with festoons of evergreens and mottoes, the most prominent of which was "The Smithfield of Canada." Beneath this motto and over the entrance into the annex were the heads of a large Devon steer, a Suffolk boar, and a Highland sheep, which had been kindly loaned by Professor Brown, of the Ontario Agricultural College for the occasion. The building was commodious and well lighted by gas. The main part, in the centre of which was the judges' ring, was nicely carpeted with sawdust. The accommodation was first class, and the committee of management left nothing undone to make the show a grand success. Bright, clear, wintry weather, with excellent sleighing, could not but prove a good omen for the success of the event.

A more happy choice of place in which to hold the exhibition, could not have been made than in the city of Guelph, as it is situated in the centre of the best stock-producing section of Ontario, and is in every way accessible by railroads, and would cost the exhibitors less amount for transportation, than if it had been held in any other city in the Province. It also gave the students of the Ontario Agricultural College, with the lectures and instruction received at the aforesaid institution, an opportunity to see, compare and verify the results attained by the various exhibitors, and on their return to their respective homes the good seed will be sown all over the Dominion, which will return a hundredfold in future years.

The stock was weighed in the forenoon of the first day and placed in its proper position by seven o'clock in the evening, and then everything was ready and convenient for the judges to begin work in the different departments. The show was now opened by the Hon. A. M. Ross, Commissioner of Agriculture, while Mr. Whitelaw, President of the Guelph Fat Stock Show filled the chair very efficiently and Mr. Frankland, of Toronto, one of Ontario's largest stock shippers, also made a very telling speech on the way to make the cattle trade of Canada a success.

THE JUDGING.

Immediately on the conclusion of the speaking, the judges began their duties in the various departments. Owing to the large number of cattle entered, the judging on them was not completed when the hour arrived for the sale of fat steers, from the Ontario Experimental Farm. They were of good quality, and as even, and well-finished a lot of steers as could be found, if the whole country were searched, but owing to the depression in the meat market the sales were not satisfactory.

On Thursday morning the judging was concluded. The largest exhibitors were Messrs. H. & I. Groff, of Elmira, who showed eleven head of very prime beasts. These gentlemen exhibited a monstrous steer, but it was shut out from notice by the fact that no prize was offered for steers of his age, which was four years and seven months; weight 3,200 lbs. Messrs. J. & R. McQueen, Jas. S. Armstrong, also Geo. S. Armstrong and many other gentlemen made very creditable displays of well-fatted cattle.

The following is the prize awards for the cattle :

CLASS I.—THOROUGHbred CATTLE OF ANY BREED.

SEC. 2. *Best steer, 2 and under 3 years :—*

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.
1st.	"Baron,"....	913	1,910	2.09	H. & I. Groff, Elmira.

He was a dark red, thoroughbred short horn, and the only one in this class: he was noticed for his remarkably large daily gain, which was only equalled by one animal which was some days older in his class at the last Chicago show. He was even, but a little narrow on the back.

SEC. 3. *Best steer 1 and under 2 years :—*

Again in this section there was only one entry, that made by H. & I. Groff, who showed "Elmira Boy;" he was a Shorthorn steer, 632 days old, weighed 1,445 lbs., showing a gain of 2.28 lbs., per day: he was a very fine animal for his age, but is deficient in some points which prevent him from being a model.

SEC. 4. *Thoroughbred cow, 3 years and over*

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.
1st.	"Barbara Allen,"	4,078	1,975	.48	H. & I. Groff, Elmira.
2nd.	"Butterfly,"....	2,869	1,912	.66	A. Brockie, Fergus.
3rd.	"Lady La Roy,".	1,546	1,597	1.03	L. O. Barber, Guelph.

"Barbara Allen" is a well known cow to all stock men. She is a fine, square built animal, with a nice fine finish, with all the forequarters of a beefing steer; slight patchiness on rump.

"Butterfly" and "Lady LaRoy" were fine finished cows, but did not come up to "Barbara Allen" in evenness of frame.

CLASS II.—GRADE OR CROSS, ANY BREED.

SEC. 1 *Steer, 2 and under 4 years*

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.
1st.	"Pilot,".....	1,345	2,350	1.70	H. & I. Groff, Elmira.
2nd.	"Sandy,".....	1,889	1,912	1.38	G. S. Armstrong, Fergus.
3rd.	"H. Dick,".....	1,453	2,325	1.60	Thos. Joyce, Mansewood.

"Pilot" is a fine roan steer, well sprung in the ribs, with broad and straight back. He had a little too much daylight under him—but take him all in all, he is a very fine beast.

"Sandy" was a better finished steer, but was deficient in his hindquarters and on

"Halton Dick" was a close rival of "Sandy," but was not so well finished.

SEC. 2. *Steer, 2 and under 3 years* —

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.	
1st.	"John Cook,"...	1,012	2,105	2.08	John Kelly, Shakespeare.	
2nd.	"Aberdeen,"...	994	1,970	1.91	H. & I. Groff, Elmira.	
3rd.	"Pat,"	957	1,604	1.56	Do.	Do.

"John Cook" was a very fine steer, had a daily record much larger than any of similar age at Chicago, most excellent back, straight and broad from tail to withers, well covered with flesh, especially on loin, good crops, nice even belly, but he did not carry his flesh well down to the ground.

"Aberdeen" was very close to "John Cook," but the judges claimed that "John" had his flesh better laid on where the butcher wanted it, so for that reason he got the red ribbon. "Aberdeen" had his flesh better down to hocks, in twist and on shoulder.

"Pat" was a very fine even steer, but did not come anyway near his opponents.

SEC. 3. *Steer, 1 and under 2 years* —

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.	
1st.	"Ranger,"	675	1,830	2.65	H. & I. Groff, Elmira.	
2nd.	"Proud Boy," ..	695	1,375	1.96	Do.	Do.
3rd.	"Rodger,"	723	1,255	1.73	C. S. Armstrong, Fergus.	

"Ranger," the best steer of his age that came in the ring; a very even, well finished animal; nice clean head, broad between the eyes; grand neck, as the flesh goes well down to jaw; brisket full and deep; back straight and broad; good under line. If he had been a little better filled out on round, and a little better covered on loin, there would be no hesitation in calling him a model steer of his age.

"Proud Boy" was a very even steer, and when finished next year will, without doubt, make his mark in the show ring in his class.

"Rodger" is a well finished beast, but is deficient in some parts.

SEC. 4. *Cow 3 years and over.*

	Name.	Days old.	Weight.	Daily Gain.	Exhibitor.	
1st.	"Daisy,"	1,705	2,380	1.39	J. & R. McQueen, Salem.	
2nd.	"Dora,"	1,431	1,880	1.31	H. & J. Groff, Elmira.	
3rd.	"N. H. Lass," ..	2,040	1,640	.80	W. C. Smith, New Hamburg.	

"Daisy," was a big, little better, well grown, at the ears. She was fairly rolling with fat, she had a beautiful head and a good carriage in the ring; covered evenly all over with flesh and had it well down to hocks; excellently bright of fore quarters; fine quality of bone and flesh; an animal of prime finish, of that firm, springy touch much sought after by butchers.

"Dora," was a close rival of the Daisy that carried the red ribbon away from her; she had a grand flesh-carrying frame; was a beautiful looking animal in her own stall, and even in the ring along side of "Daisy." The owners may be proud of her. If we were to find fault we would say she was patchy about the rump.

"N. Hamburg Lass," lacked width and depth; was bare on shoulder and loin, but if she were better finished, she would not be a second-class cow.

CLASS III.—SWEEPSTAKES FOR CATTLE.

SEC. 1. *Best steer any age or breed* —

Was taken by Groff's yearling steer, "Ranger," he was the evenest, and of better quality, and also well finished, so by taking him altogether, he was the best steer for his age out of the fifteen entries that were made in this class.

SEC. 2. *Best female of any age or breed.*

"Daisy" carried the red ribbon out of the ring without any trouble.

CLASS IV.—GRAND SWEEPSTAKES.

SEC. 1. *Best fat beast on the ground any age or breed.*

There were fourteen entries in this section, but as "Ranger" carried first in his class sweepstakes, and "Daisy" in hers, they were the only two beasts that the judges had to decide between. "Daisy" was the larger and fatter, but when age was taken into consideration, "Ranger" took the ribbon.

CLASS V. SPECIAL PREMIUM.

SEC. 1. *Best car load of animals that have not competed in any other class.*

J. and R. Millar made the only entry. It consisted of eight beasts of 1,400 pounds average weight per head. They were a nice even lot of good average quality, and look as if they would stand the voyage across the Atlantic to the cattle market of the world, without any shrinkage or loss to the shipper.

CLASS VI. SPECIAL PREMIUM: BY THE SHORTHORN BREEDERS OF ONTARIO.

SEC. 1. *Best fat Shorthorn steer or cow any age.*

In this class there were eight entries, but only "Red Duke," "Baron," and "Elmira Boy," came in the ring before the judges. "Red Duke" took it. He has a grand frame for carrying flesh; but a poor handler, soft and flabby, indicating little but soft fat. This test was for a cup valued at \$100. The exhibitor must win this cup twice before it becomes his permanent property. It was won last year by H. and I. Groff, and this year by J. & R. McQueen, so the competition between these two noted feeders of our country will be keen next year, by all accounts.

CLASS VII.—SPECIAL PREMIUM; BY EMPIRE HORSE AND CATTLE FOOD CO.

SEC. 1. *Herd of fat cattle for shipping. Herd to consist of three animals:—*

The prize was taken by "Pilot," "Aberdeen," and "Baron," owned by H. and I. Groff; they were even better than the lot exhibited by J. & R. McQueen, and in better condition for shipping.

CLASS VII½.—SPECIAL PREMIUM.

SEC. 1. *Best heifer under 3 years, any age or breed:—*

There were three brought into the ring. The contest was very close between "Bonnie Lass" and "Mayflower," but after some time the judges decided in favour of "Bonnie Lass," on account of her superior hind quarters.

"Snowdrop" took third. She was well named, but not well fattened or finished.

BENEFITS OF THE SHOW.

Fat stock shows should be a great benefit to the Province of Ontario, as it is to her agriculture resources that she must look for her wealth and prosperity. For, says Abbe Flury, in his work on the Manners of the Israelites, it is the peasant who feeds the citizen, the magistrate, the gentleman, the ecclesiastic; and whatever artifice and craft may be used to convert money into commodities, and these back again into money, yet all must ultimately be owned to be received from the products of the earth and the animals which it sustains and nourished.

On account of the competition in the wheat market by the extensive wheat fields of the Western States, our own vast North-West, Australia, Russia, India, and other wheat producing countries, and also, taking into consideration the huge temperance wave which is now sweeping over North America like an avalanche, and which is likely to destroy our barley trade, and take away another source of wealth, the agriculturist will be obliged to seek other than the grain market to sustain his present position, and, no doubt, the production of live stock will be the first to draw the general farmer's attention. At no previous time could the introduction of fat stock shows have been of greater benefit to the country, as they encourage high feeding and bringing of stock to maturity in the shortest time.

One feature of the show which, in our opinion, mitigated its usefulness was the absence of all other breeds except Ontario's pride, the Shorthorn. If prizes were awarded to separate breeds independent of each other it would encourage the different breeders to produce a class of animals which, in the near future, are destined to fill the pockets of the many, if they do not reflect so much honour to the show ring as the magnificent Durhams. Instance the sale of the Experimental Farm Stock at which "Hartford," a Hereford grade, brought the greatest prize, irrespective of age or breed.

SHEEP.

In this department the show was a grand success; there were ten more entries than at the Chicago Fat Stock Show, and double the number that was shown at Toronto last year. Almost every breed was represented, either pure or by their grades. The quality of the animals shown was excellent. The exhibit was remarkably good throughout, and competition keen.

The prizes were awarded as follows:—

Long woolled—Lincolns, Leicesters, Cotswolds, and their crosses.

Wether 2 and under 3 years, John Rutherford, Roseville, 1st, 2nd and 3rd; wether 1 and under 2 years, Thomas Waters, 1st and 2nd; John Rutherford, 3rd; wether under 1 year, John Kelly, Shakespeare, 1st and 2nd; ewe 2 and under 3 years, Thomas Waters, 1st and 2nd; John Rutherford, 3rd; ewe 1 and under 2 years, John Kelly, 1st; John Rutherford, 2nd; ewe under 1 year, John Kelly, 1st; Thomas Waters, 2nd.

Middle woolled sheep, Downs and their crosses.

Wether 2 and under 3 years, James G. Wright, 1st, 2nd and 3rd; wether 1 and under 2 years, James Glenzie, 1st and 2nd; John Rutherford, 3rd; wether under 1 year, John Kelly, 1st and 2nd; ewe 2 and under 3 years, John Campbell, Woolville, 1st; John Rutherford, 2nd; Robert Marsh, 3rd; ewe 1 and under 2 years, John Campbell, 1st; John Rutherford, 2nd; Andrew Mutrie, 3rd; ewe under 1 year, John Rutherford, 1st; James Glenzie, 2nd.

SWEEPSTAKES FOR SHEEP.

Best wether of any age or breed, J. G. Wright. Best ewe of any age or breed, John Campbell.

This being the largest, as well as the finest exhibit of fat sheep ever made in America, proves that our sheep breeders are alive to their interest, and the benefits of fat stock shows, and that they are using every exertion to make the carcass, in future, pay the loss they have sustained by the fleece, in the past; and also to prove which breed is best adapted to this end.

HOGS.

The display in this department exceeded the expectations of the most sanguine, and was very fine, taking into consideration that the section is not noted for its hog production.

The judges had much difficulty in awarding the premiums; the competition ran high. A new system of judging in this part of the country was introduced. It is known as the ballot system, and proved to be very satisfactory.

The exhibitors are J. and R. Millar, four Suffolks of different ages; John Alison, Galt, four Berkshires, each of which was 431 days old; George S. Armstrong, Fergus, showed two Berkshires; J. G. Snell & Bro., Edmonton, three Berkshires, one of which weighs 789 pounds; L. O. Barber, two Suffolks; A. Frank & Son, "The Grange," two Suffolks; Thomas McCrae, two Essex pgs, over a year old; W. T. Haines, a Yorkshire and a Berkshire; Fred Armstrong, Speedvale, two Yorkshire sows; James Graham, Eramosa, one Berkshire sow; Joshua Sisley, Richmond Hill, a Berkshire sow.

The prizes were awarded as follows:—

Any Breed.—Barrow 1 and under 2 years, John Alison, 1st and 2nd; J. & R. Millar, 3rd. Barrow, under 1 year, George Armstrong, 1st; L. O. Barber, 2nd; J. & R. Millar, 3rd. Sow, 1 and under 2 years, John Alison, 1st; J. G. Snell & Bro., 2nd; A. Frank & Sons, 3rd. Sow, under 1 year, J. G. Snell & Bro., 1st; J. & R. Millar, 2nd; G. S. Armstrong, 3rd.

SWEEPSTAKES FOR HOGS.

Hogs of any age, breed or sex, J. G. Snell & Bro.

The Counties of Essex and Kent should have taken a greater interest in this department of the show, and should receive greater benefits therefrom than any other portion of Ontario, as we are safe in stating that they receive a greater amount of money from corn and hogs than any other article of produce.

POULTRY.

In this class, the ladies came to the assistance of the gentlemen, and too much praise cannot be given to the farmers' wives and daughters for the noble exertion put forth to make this department of the show a magnificent success; and, as is always the case where the fair sex enter into the strife with their liege lords they came out ahead, and succeeded in making the show of the feathery tribe far surpass any other display, and to far outstrip anything of the kind ever held before in Canada. A view of the two long tables of dressed poultry ready for the spit, would draw the water from the teeth of the most inveterate epicure.

The largest and most successful exhibitors in live and dressed poultry were Miss H. Young, Mrs. J. Card, Mrs. T. Card, Mr. J. Tomalin, Mr. John Hewer, beside many others.

If fault could be found with any part of the show, it would be in this department for not giving sufficient prizes to encourage this industry as it should be encouraged. The profits of the fowl yards are much greater than are generally supposed to be, and for the reason that the products of poultry are taken to market in small quantities, and the proceeds used for pin-money, and no account kept of the same, it is impossible to get any correct statistics of this source of wealth; but in our opinion it is sufficient to supply our rural homes with the required amount of groceries, and leave a surplus to decorate our fair daughters. This important branch of agriculture might be increased to an almost unlimited extent, with greater profits than any other, which the sales of both live and dressed poultry at the show prove plainly, as better prices were obtained, according to cost of production, than for any other meat offered for sale. Another reason that the poultry business should be increased and stimulated is that any person possessing a few acres of land and a few dollars of money, can start in the business and make larger profits, according to the capital invested, than in any other branch of husbandry.

I have the honour, gentlemen, to be

Your obedient servant,

B. ROBINSON.

Ontario Agricultural College, Guelph.

REPORT OF FAT STOCK SHOW.

To which was awarded the Third Premium by the Agriculture and Arts Association.

The Second Annual Ontario Provincial Fat Stock Show of Guelph was held in that city December 17th and 18th, 1884, under the auspices of the Agriculture and Arts Association of Ontario and the Guelph Fat Stock Club.

The Exhibition was held in the drill shed. The building was very comfortably arranged. On entering at the front door the visitors' eyes were first caught by a large motto, on the opposite side of the building. "The Smithfield of Canada," was the inscription which stood out in such bold relief. Beneath this motto, and over the entrance to the new wing, were the heads of a large Devon steer, a Suffolk boar, and a Highland sheep. These were kindly loaned for the occasion by Prof. Brown, of the O. A. C. Around the walls of the building were evergreens tastefully arranged, and from the beams, in the centre of the building, and on the sides of the wall hung flags. The large addition erected at the east side of the shed was comfortably fitted up with stalls for cattle, and

pens for sheep and pigs. Although this structure was but a temporary one, it was well arranged, and the animals in here were as free from the cold as those in the large building. On account of there being no windows in this wing, it was lighted day and night by gas. The floor of the main building had been well bedded with sawdust, and water thrown over the top of it, which froze and made a splendid smooth, solid floor. The judging ring was a very appropriate one, having plenty of room when the cattle were in the interior for the judges to get around, and leaving a large space all around the outside of the ring for the numerous visitors who were anxious to get a good view of the massive animals as they were brought into the ring.

The animals were arranged around the north, east, and upper half of the west side of the main building; while in the south end were two tables beautifully arranged with dressed poultry, and at the back and remaining half of the west side were cages on top of cages of live poultry. On entering the new wing, cattle were to be seen arranged on each side of the building, leaving in the centre a space of about twelve feet wide, which extended down the whole length of the building, for the accommodation of visitors wishing to see the animals. Below the cattle, sheep were arranged in convenient and comfortable pens on each side, while in the remainder of the building were pigs arranged likewise. The whole of the arrangement was highly creditable to Mr. Robert Kirby, the superintendent of the building, who devoted a great deal of time in completing the work of fitting up and decorating.

It may be truly said that, but for the importance and successful labours of the Guelph Fat Stock Club, the Ontario Association would never have co-operated with it in holding the Annual Provincial Show in Guelph. The Guelph Fat Stock Club, like all other deserving societies, has had much to contend with since its inception. It is only four years since the first exhibition of Fat Stock was held in Guelph. A little ring on the market square was fenced in by a rope, and in this circle the exhibition took place. The first show did not prove a big success, not because of a lack of energy on the part of its promoters, but on account of the very cold manner in which the enterprise was regarded by many intelligent farmers. But though the labour and anxiety of the men who first launched that institution known as the Fat Stock Club were not rewarded with a full measure of success, they did not abandon the undertaking. With commendable perseverance they persisted in endeavouring to encourage stock raising and feeding in this part of the country, by having the Show every Christmas. That success has crowned their efforts no one will doubt, and the immense proportion to which it has grown is really surprising and gratifying to its organizers and the people generally. The farming community who, after all, received the greatest benefit, owe much to the men who, by their zealous labour, have made Guelph the great centre for Fat Stock at Christmas time.

The weather during the two days was bright, clear and wintry; the sleighing was excellent, which proved an omen for the success of the event. The building was fairly filled with visitors, among whom was a good sprinkling of the fair sex.

Shortly after seven o'clock on Wednesday night, December 17th, Mr. Wm. Whitelaw, President of the Guelph Fat Stock Club, Messrs. McKinnon, Stoll, Moore, Shipley and Wade, of the Agriculture and Arts Association, Hon. A. M. Ross, Commissioner of Agriculture, James Innes, M.P., James Ludlow, M.P.P., G. F. Frankland, Toronto, and others took seats upon the platform.

After speeches from several of the gentlemen the Judges began their duties in the various departments.

Owing to the large number of cattle entered, the judging on them was not completed when the hour arrived for the sale of fat steers from the Ontario Experimental Farm, and the remaining portion of the work was postponed until the following morning, when it was concluded.

EXHIBITORS OF CATTLE.

The largest exhibitors were Messrs H. & I. Groff of Elmira, Waterloo County, Ont., who showed eleven head of well fattened animals, viz.: "Baron," 913 days old, weight 1,910 lbs., daily rate of increase, 2.09 lbs. "Elmira Boy," 622 days old, weight 1,445 lbs., daily rate of increase, 2.28 lbs. "Pilot," 1,345 days old, weight 2,350 lbs., daily rate of increase,

1,70 lbs. "King," 990 days old, weight 1,590 lbs., daily rate of increase 1.60 lbs. "Aberdeen," 994 days old, weight 1,970 lbs., daily rate of increase, 1.91 lbs. "Pat," 957 days old, weight 1,650 lbs., daily rate of increase, 1.64 lbs. "Ranger," 675 days old, weight 1,830 lbs., daily rate of increase, 2.65 lbs. "Proud Boy," 696 days old, weight 1,375 lbs., daily rate of increase, 1.96 lbs. "Roan Punch," 544 days old, weight 1,180 lbs., daily rate of increase, 2.36 lbs. "Dora," 1,431 days old, weight 1,800 lbs., daily rate of increase, 1.31 lbs. "Jumbo," a 4 years old steer, weighing 3,200 lbs. J. & R. McQueen, Salem, Ont., showed three head of beautifully fattened animals, viz.: "Barbara Allen," 4,078 days old, weight 1,975 lbs., daily rate of increase, .48 lbs. "Daisy," 1,705 days old, weight 2,380 lbs., daily rate of increase, 1.39 lbs. "Red Duke," 1,727 days old, weight 2,390 lbs., daily rate of increase, 1.38 lbs. Richard Gibson, Delaware, Ont., showed one animal, viz., "Gwynne Dutchess 6th," being 2,253 days old. John Fraser, Ayr, Ont., showed one animal, viz., "Golddays," 4,427 days old, weight 1,435 lbs. L. O. Barber, Guelph, Ont., showed one animal, viz., "Lady LeRoy," 1,546 days old, weight 1,597 lbs., daily rate of increase, 1.03 lbs. Geo. S. Armstrong, Fergus, Ont., showed three well fattened animals, viz.: "Sandy," 1,714 days old, weight 1,920 lbs., daily rate of increase, 1.38 lbs. "General Wolesley," 786 days old, weight 1,410 lbs., daily rate of increase, 1.79 lbs. "Roger," 723 days old, weight 1,255 lbs., daily rate of increase, 1.73 lbs. Thomas Joyce, Manswood, Ont., showed one animal, viz., "Dick," being 4 years old. John Kelley, Jr., Shakespeare, showed one beautifully fattened animal, viz., "John Cook," 1,012 days old, weight 2,105 lbs., daily rate of increase, 2.08 lbs. Jas. S. Armstrong, Seaside, Ont., showed two well fattened animals, viz.: "Arthur," 724 days old, weight 1,255 lbs., daily rate of increase, 1.73 lbs.; "Harry," 807 days old, weight 1,400 lbs., daily rate of increase, 1.73 lbs. Alex. Norrie, Paisley, Ont., showed two well fattened animals, viz., "General," 802 days old, weight 2,105 lbs., daily rate of increase, 2.03 lbs.; "Prince Champion," 695 days old. Henry Clemens, Ravenswood, Ont., showed one animal, viz., "Pride of Lambton," 647 days old. James Graham, Rockwood, Ont., showed one animal, viz., "May," 1,467 days old, weight 1,800 lbs., daily rate of increase, 1.23 lbs. Thomas Card, Marden, Ont., showed one animal, viz., "Fanny," 3,896 days old, weight 1,650 lbs., daily rate of increase, .42 lbs. W. C. Smith, New Hamburg, showed one animal, viz., "New Hamburg Lass," 2,040 days old, weight, 1,640 lbs., daily rate of increase, .80 lbs. John Tuck, Rockwood, Ont., showed one animal, viz., "Snowdrop," 1,003 days old, weight 1,245 lbs., daily rate of increase, 1.34 lbs. Daniel Talbot, Everton, Ont., showed one animal, viz., "Bonnie Lass," 1,031 days old, weight 1,550 lbs., daily rate of increase, 1.50 lbs. Wm Smith, Eramosa, Ont., showed one animal, viz., "Mayflower," 985 days old, weight 1,550 lbs., daily rate of increase, 1.57 lbs. J. & R. Miller, Guelph, Ont., showed a carload of eight cattle, viz.: "Beauty," 780 days old, weight 1,450 lbs.; "Belle," 359 days old, weight 1,320 lbs.; "Pansy," 853 days old, weight 1,300 lbs.; "Violet," 905 days old, weight 1,280 lbs. "Daisy," 800 days old, weight 1,250 lbs. "Rose," 807 days old, weight 1,335 lbs.; "Blossom," 859 days old, weight 1,275 lbs.; "Heather Bell," 924 days old, weight 1,330 lbs. The Ontario Experimental Farm exhibited twelve well fattened animals, viz.: "Huntingdon," 996 days old, weight 1,665 lbs., daily rate of increase, 1.67 lbs.; "Heathfield," 803 days old, weight 1,673 lbs., daily rate of increase, 2.05 lbs.; "Hartford," 780 days old, weight 1,665 lbs., daily rate of increase, 2.11 lbs.; "Aberdeen," 876 days old, weight 1,700 lbs., daily rate of increase, 1.87 lbs.; "Aboyne," 873 days old, weight 1,675 lbs., daily rate of increase, 1.87 lbs.; "Dudley," 1,097 days old, weight 1,950 lbs., daily rate of increase, 1.80 lbs.; "Derby," 1,012 days old, weight 1,975 lbs., daily rate of increase, 1.91 lbs.; "Digby," 1,006 days old, weight 1,845 lbs., daily rate of increase, 1.83 lbs.; "White Prince," 727 days old, weight 1,525 lbs., daily rate of increase, 2.09 lbs.; "Lady Olive," 1,001 days old, weight 1,335 lbs., daily rate of increase, 2.05 lbs.; "Duncan," 1,000 days old, weight 1,680 lbs., daily rate of increase, 1.64 lbs.; "Wade," 1,000 days old, weight 1,865 lbs., daily rate of increase, 1.86 lbs.

These last twelve animals were entered for competition and promised to take a prominent place in the prize list, but were withdrawn by the advice of the Commissioner of Agriculture, much to the disappointment of Prof. Brown, as well as some of the farmers who are entitled to the credit of fattening them.

EXHIBITORS OF SHEEP.

The largest exhibitor of sheep was John Rutherford, Roseville, Ont., who showed nineteen sheep, viz.: "Champion," "James," "Brown," "Robin Hood," "Lorne," "Rob Roy," "Rob Hope," "Queen of the Plains," "Jenny," "Fannie," "Moses Oats," "Heaslip," "Professor," "Shepherd," "Black Tom," "Oscar," "Kate," "Dolly," "Daisy," and "Sally."

Jas. G. Wright, Guelph, Ont., showed six head of well-fatted sheep. John Kelley, jun., Shakespeare, Ont., showed seven sheep, viz.: "Bob," "Tom," "Dick," "Susie," "Betsey," "Bella," and "Jess." Thomas Waters, Rockwood, Ont., showed six head, viz.: "Blake," "Mowat," "John A." "Lady Blake," "Lady Mowat," and "Lady Macdonald." John S. Armstrong, Speedside, Ont., showed six head, viz.: "Jim," "Jonathan," "Ned," "Lewis," "Oxford Lass," and "Sally." A. & J. Brown, Galt, Ont., showed four head, viz.: "Tom," "Jerry," "Marel," and "Jack." Robert Marsh, Richmond Hill, Ont., showed five head, viz.: "Tom," "Jerry," "Duke," "Baron," and "Beatrice." Geo. Patterson, Guelph, Ont., showed two head, viz.: "Sandie" and "Mac." James Glennie, Guelph, Ont., showed four head, viz.: "Oxford Grade," "Shropshire Grade," "Shropshire Jack," and "Shropshire Pure." John Campbell, jr., Woodville, Ont., showed three head, viz.: "Dromis," "Lucetta," and "Nancy." Andrew Mutrie, Oustie, Ont., showed three head of well-fatted sheep.

EXHIBITORS OF PIGS.

The largest exhibitor was John Alison, Galt, Ont., who showed five pigs, viz.: "Sir John A.," "John 3rd," "Gracie," "Jennie," and "Maud." J. & R. Millar, Guelph, Ont., showed four head, viz.: "Duke," "Tom," "Dick," and "Snowball." Geo. S. Armstrong, Fergus, Ont., showed two head, viz.: "Jeff," and "Bess." L. O. Barber, Guelph, Ont., showed two head, viz.: "Gen. Tom Thumb" and "Minnie Warren." A. Frank & Sons, "The Grange," Ont., showed two head, viz.: "Jemina" and "Grunt." W. T. Haines, Guelph, Ont., showed two head, viz.: "Sally" and "Polly." James Graham, Rockwood, Ont., showed one pig "Kate." Thomas McCrae, Guelph, Ont., showed two head, viz.: "Blackie" and "Blanche." Fred. Armstrong, Armstrong's Mill, Ont., showed two head, viz.: "Violet" and "Pansy." J. G. Snell & Bro., Edmonton, Ont., showed two head, viz.: "Souvenir," and "Quality." Wm. Armstrong, Speedside, Ont., showed one pig, "Content."

SALE.

About ten o'clock on Wednesday evening, after the judging had been completed for the day, Mr. James Taylor, auctioneer, offered for sale seven steers and one heifer: Short-horn, Aberdeen, Angus Poll, and Hereford grades, the property of the Ontario Experimental Farm. Owing to the lateness of the hour the bidding was not so spirited as it would have been earlier in the evening or during the day. The average price was about 6½ cents per pound, live weight, which did not reach the expectations of Prof. Brown. Had the Ontario Government allowed the animals to be sold privately, the prices would have been considerably higher. But the Ontario Government forbid the selling of the animals by private sale, and right, too, as the Farm is Government property, and the Government is determined to give every one, who may be anxious for buying, an equal chance with other intending purchasers. The following is the list of the sale:—

"Dudley," 1,097 days old, weight 1,950 pounds, average gain per day 1.80 pounds, bought by Stephen Hall, Blenheim, for \$121. "Digby," 1,006 days old, weight 1,845 pounds, daily rate of increase 1.83 pounds, bought by G. Clayton, Guelph, for \$122. "Derby," 1,012 days old, weight 1,945 pounds, daily rate of increase 1.91 pounds, bought by L. O. Barber, Guelph, for \$120. "White Prince," 727 days old, weight 1,525 pounds, daily rate of increase 2.09 pounds, bought by Mr. Hope, Bow Park, for \$130. "Lady Olive," 1,001 days old, weight 1,335 pounds, daily rate of increase 2.05 pounds, bought by H. J. Lawry, Milton, for \$81. "Aboyne," 873 days old, weight 1,675 pounds, daily rate of increase 1.87 pounds, bought by Thomas Alison, Galt, for \$100. "Huntingdon," 996 days old, weight 1,665 pounds, daily rate of increase 1.67 pounds, bought by Mr. Dingle, Milton, for \$112. "Hartford," 803 days old, weight 1,655 pounds, daily rate of increase 2.11 pounds, bought by C. Satchell, Ottawa, for \$151.

CLOSING SCENES.

The show closed at three o'clock on Thursday afternoon. The admission receipts for the first day were \$111; but they exceeded that amount the last day.

During Thursday afternoon the farmers and city people were to be seen travelling down the street to the drill shed in groups of twos and threes.

One noticeable feature of the show was the absence of all but Shorthorn cattle, with the exception of two Aberdeen Angus Poll, and two Hereford grade steers, which were brought from the Ontario Experimental Farm to the sale.

I think all that Guelph requires now to make its fat stock shows equal to the Chicago fat stock shows in the future, are suitable buildings, having a slaughtering-house in connection. When such buildings are erected and well arranged, I am sure the shows will not lack for interest.

I have the honour to be, Gentlemen,

Your obedient servant,

C. M. CARLAW.

A. A. COLLEGE,

December, 1884.

ONTARIO VETERINARY COLLEGE SESSION 1883-4.

EXAMINATIONS, MARCH 27, 28, 29.

The following gentlemen passed a final examination :

Geo. Anderson, Islington, Ont.	W. R. Laidlaw, Aylmer, Ont.
R. C. Ardeil, London, Ont.	R. U. Mason, Mono Mills, Ont.
Chas. M. Bailey, Haverhill, Mass., U. S.	Wm. Mitchell, Mono, Ont.
G. G. Blank, Allentown, Penn., U. S.	Samuel Murphy, Port Hope, Ont.
Geo. W. Butler, Sterling, Ont.	Duncan Macarthur, Ailsa Craig, Ont.
D. W. Burt, Hillsburg, Ont.	Wm. Machan, Mitchell, Ont.
Thos. H. Bradley, Gananoque, Ont.	Edward Ming, Belleville, Ont.
M. L. Boughman, West Lebanon, Ill., U. S.	Wm. Nichol, Beeton, Ont.
Jas. Brown, Guelph, Ont.	J. Y. Ormsby, Ancaster, Ont.
G. C. Bogart, Duart, Ont.	Frank Parker, Strathroy, Ont.
G. W. Brodie, Almira, Ont.	N. C. Patterson, Ballantrae, Ont.
Jas. Cruickshank, Heathcote, Ont.	J. F. Reid, Belleville, Ont.
Edward Courtenay, Ashland, Ky., U. S.	H. E. Rowell, Albion, N. Y., U. S.
L. C. Decow, Thamesville, Ont.	H. G. Reed, Georgetown, Ont.
P. C. Dodge, Creston, Ill., U. S.	Albert Reycraft, Highgate, Ont.
D. C. DeWitt, Lafayette, Ind., U. S.	John Sutcliffe, Brooklyn, N. Y., U. S.
N. W. Dickey, Newtonville, Ont.	E. A. Steenbury, Frankport, Ont.
W. G. Dodds, Orangeville, Ont.	W. W. Stork, Brampton, Ont.
Chas. Elliott, Madisonburg, Ohio, U. S.	E. Sharrard, Brougham, Ont.
Albert Eisenman, Louisville, Ky., U. S.	N. Silverthorn, Somerville, Ont.
Orr Graham, Port Perry, Ont.	Andrew Sparham, Caledonia, Ont.
March Green, Casselton, Dakota, U. S.	Alfred Tennent, Birr, Ont.
Lol. K. Hoffman, Shoemaker, Pa., U. S.	L. C. Tiffany, Jacksonville, Ill., U. S.
John Hackett, Vittoria, Ont.	Chas. E. Thomson, Zephyr, Ont.
Adam Harthill, Louisville, Ky., U. S.	John Wende, Millgrave, N. Y., U. S.
Frederick Hewitt, Maple, Ont.	L. E. Weber, Greenlane, Penn., U. S.
J. B. Irons, Linesville, Pa., U. S.	Jas. Wilson, Wingham, Ont.
W. R. Kincaid, London, Ont.	John Wilson, Wingham, Ont.
R. H. Kestell, Simcoe, Ont.	Harry Waldron, Ayr, Ont.
Myles Livingston, Jura, Ont.	

PRIZE AND HONOUR LIST (SENIORS).

Pathology.—First prize, silver medal, C. A. Steenburg ; second prize, Geo. W. Butler ; third prize, L. C. Tiffany.

Honours.—R. E. Ardeil, G. G. Blank, C. M. Bailey, T. H. Bradley, Edward Courtenay, P. C. Dodge, D. C. DeWitt, Orr Graham, Albert Eisenman, R. M. Mason, Wm. Mitchell, D. Macarthur, J. Y. Ormsby, J. F. Reid, H. E. Rowell, H. Waldron, James Wilson, John Wilson, Adam Henthill, S. R. Hoffman.

Anatomy.—First prize, silver medal, Geo. W. Butler ; second prize, J. F. Reid and L. C. Tiffany, equal ; third prize, E. A. Steenburg.

Honours.—Brodie, Courtenay, Dodge, Graham, Hoffman, Hachett, Adam Harthill, Kincaid, Ormsby, Parker, Roycraft, H. G. Reed, Rowell, Stark, Sutcliffe, Sparham, James Wilson, John Wilson, H. Waldron.

Entoza.—First prize, Edward Courtenay.

Honours.—Blank, Butler, Hewett, Mason, Macarthur, Ormsby, Parker, J. F. Reid, H. G. Reed, Steenburg, Tiffany.

Microscopy.—First prize, G. G. Blank.

Honours.—Ardeil, Parker, H. G. Reed, Stork, Tiffany, John Wilson, James Wilson.

Physiology.—First prize, silver medal, Geo. W. Butler ; second prize, D. Macarthur ; third prize, H. Waldron.

Honours.—Silverthorn, J. F. Reid, H. G. Reed, James Wilson, Sutcliffe, Tiffany, Burt, Blank, Kincaid, Courtenay, Thomson, Parker.

Chemistry.—First prize, D. Macarthur ; second prize, E. A. Steenburg ; third prize, W. W. Stork.

Honours.—Silverthorn, Butler, Reed.

Anatomical Preparation.—First prize, silver medal, H. Waldron ; second prize, James Wilson ; third prize, John Wilson.

Materia Medica.—First prize, J. F. Reid ; second prize, Ed. Courtenay ; third prize, L. C. Tiffany.

Honours.—Butler, Bailey, Ormsby, Stork, H. G. Reed.

Breeding and Management of Stock.—First prize, J. Y. Ormsby ; second prize, Geo. W. Butler ; third prize, N. Silverthorn.

Honours.—H. G. Reed, D. Macarthur, L. C. Tiffany, Ed. Courtenay.

Best General Examination.—Gold medal, J. F. Reid.

Honours.—Blank, Butler, Adam Harthill, H. G. Reed, Steenburg, James Wilson.

PRIZE AND HONOUR LIST (JUNIORS).

Anatomy.—First prize, silver medal, T. S. Butler ; second prize, J. A. Medill ; third prize ; C. H. Pierce.

Honours.—Burger, Grant, Hall, Ireland, McLean, J. Miller, Geo. Standish, Ed. J. Sterner, L. Thompson.

Pathology.—First prize, T. T. Butler ; second prize, Ed. J. Sterner ; third prize, Louis Thompson.

Honours.—Burger, Carpenter, Gallagher, Grant, Hall, Albert Harthill, Hess, Ireland, McLean, McGilvray, C. Munn, Michener, Matthews, Pierce, Queen, Scott, Geo. Standish, Snider, Stevens, W. J. Wilson.

Physiology.—First prize, Ed. J. Sterner ; second prize, D. McLean ; third prize, T. S. Butler.

Honours.—Munn, Thompson, Medill, Ireland, Gallagher, W. J. Wilson.

Chemistry.—First prize, D. McLean.

DECEMBER EXAMINATIONS, DEC. 23RD, 1884.

The following gentlemen passed a final examination :—

J. J. Irwin, Hockley, Ont.

W. J. Oliver, Brampton, Ont.

Albert Curtiss, Simcoe, Ont.

Geo. F. Kelly, Markham, Ont.

A. F. McMaster, Maryland, U. S.

David K. Seltzer, Havanna, N. Y., U. S.

J. E. Campbell, Alliance, Ohio, U. S.

Fred. O'Brien, Laskey, Ont.

E. D. Hayden, Syracuse, N. Y., U. S.

W. A. Meredith, Jameston, N. Y., U. S.

Passed with great credit.—Fred. O'Brien.

Honours.—W. A. Meredith, W. J. Oliver, A. R. McMaster.

REPORT
OF THE
FRUIT GROWERS' ASSOCIATION
OF ONTARIO,
FOR THE YEAR 1884.

Printed by Order of the Legislative Assembly.



Toronto:

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1885.



CONTENTS.

	PAGE.
LETTER OF TRANSMISSION	9
PROCEEDINGS OF ANNUAL MEETING	10
Directors' Report	11
Treasurer's Report	11
Annual Address of the President	12
Report of Committee on the Address	19
DISCUSSIONS AT THE ANNUAL MEETING IN BARR	20
New Varieties of Strawberries	20
Top Grafting	26
Mulching	28
Best Apples for the County of Simcoe	34
Best Pears for the County of Simcoe	39
Hedges in the County of Simcoe	40
Best Trees for the County of Simcoe	41
Cultivation of Mushrooms	41
Most profitable Apples for shipment to Europe	41
The most profitable Raspberry	42
The best Blackberries for Simcoe	42
The hardiest and earliest Grapes	43
Address of Welcome from the Mayor	44
The Maple Leaf Insect	45
Floriculture in the Public Schools	45
Covering Grapes in Winter	54
Report on the Exhibit of Fruit	54
Election of Officers and Directors	57
Roadside Tree-Planting	57
Canning Factories	63
Marketing of Small Fruits	64
Grapes for the County of Simcoe	67
The Ontario Apple	73
Fruit Exhibit at the Peninsular Fair	74
Fruit-Growing in the County of Renfrew	75

	PAGE.
DISCUSSIONS AT THE WINTER MEETING IN WOODSTOCK	77
The President's Opening Address.	77
The Apple Market, and what kinds to grow	80
Establishing an Orchard.	88
Fruit-Growing in Division No. 5.	89
Peach Tree Borers and the Yellows.	91
Profits of Apple and Peach-Growing.	92
Treatment of the Codling Moth and the Curculio.	93
Address of Welcome from the Board of Trade.	94
Apple Culture in the Cold North.	94
Protection of Plants, Shrubs and Trees in Winter.	100
Non-Professional Floriculture	102
Apples as food for Live Stock.	109
Cultivation of Celery—Methods and Varieties	111
Cultivation of Plants and Trees in the School-Yard.	113
Best Hardy Perennial Flowering Plants for Cultivation.	117
Planting Evergreens for Windbreaks.	119
Are Honey-Bees of benefit to fruit blossoms.	120
Best ten varieties of Monthly Roses	120
Effect of east winds on Fruit Blossoms and Fruit.	120
Culture of Small Fruits for Market.	121
A Paper on Garden Work.	127
Ornamental Trees and Shrubs	130
Treatment of the Ground Apple	135
Cultivation of Berry Fruits for Market.	137
The Question of Fences on the Farm.	137
Labelling Fruit at Exhibitions.	138
Cause, Prevention and Remedy of the Black Knot.	138
Report on New Fruits.	139
Report on the English Sparrow and other Birds.	142
Improving Plants and their Products by Selection	145
The Cultivation of Cranberries.	149
Mistakes of Fruit-Growers.	150
Quince Culture	151, 155
The American Pomological Society	153
Report on the Cultivation of Roses	156
Cause and Prevention of Black Scab on the Apple.	164
Best Varieties of Pears for Market	166

	PAGE.
DISCUSSION AT THE SUMMER MEETING IN BERLIN.	171
The English Sparrow	171
Effect of Painted Walls on Plant Life	175
On the Propagation of Currants	176
How to Destroy the Thrip	177
Black Knot on Plum and Cherry Trees	179
Why Healthy Trees fail to fruit	181
Apples for the English Market	182
Best Fertilizers for Raspberries	184
Growing Fruit Trees in Soil	185
Value of spent Lime as Manure	186
Value of Coal Ashes as Manure	187
Windbreaks	187
Best Fruits for Berlin and Vicinity	192
New Varieties of Strawberries	196
New Varieties of Raspberries	199
Best time to prune Fruit Trees	203
The Curculio, and how to treat it	205
New Varieties of Blackberries	207
Best Varieties of Grapes, and how to prune and train them	208
Culture and Management of Roses	213
On Building a Greenhouse	215
THE RENFREW FRUIT-GROWERS' ASSOCIATION	218
COUNTY REPORTS ON VARIETIES OF FRUIT GROWN IN ONTARIO	221

ANNUAL REPORT
OF THE
FRUIT GROWERS' ASSOCIATION
OF THE
PROVINCE OF ONTARIO FOR THE YEAR 1884.

To the Honourable the Commissioner of Agriculture :

MY DEAR SIR,—I have much pleasure in submitting for your perusal the Sixteenth Annual Report of the Fruit Growers' Association of Ontario. The discussions at the three several meetings which have been held during the year have been very carefully preserved and form a very valuable part of the report, embodying the experience of practical men in matters of importance to every cultivator of the soil.

I have the honour to be,

Your most obedient servant,

D. W. BEADLE,

Secretary.

ST. CATHARINES,

November 24th, 1884.

ANNUAL MEETING.

The Annual Meeting of the Fruit Growers' Association of Ontario was held in the Town of Barrie on the first and second days of October, 1884. The President, Mr. Saunders, of London, in the chair. The first day was spent in the discussion of questions relating to the cultivation of fruits, etc., a full report of which is appended, and on the morning of the second day the Directors submitted their Annual Report, the Report of the Treasurer and of the Auditors was read, the President delivered his annual address, and the meeting proceeded to the election of officers for the ensuing year, with the following result :

President—William Saunders, F.R.C.S., London. Vice-President—P. E. Bucke, Esq., Ottawa.

Directors—Division No. 1, John Croil, Aultsville ; No. 2, A. A. Wright, Renfrew ; No. 3, D. Nicol, Cataraqui ; No. 4, P. C. Dempsey, Trenton ; No. 5, Thomas Beall, Lindsay ; No. 6, W. E. Wellington, Toronto ; No. 7, James Goldie, Guelph ; No. 8, A. M. Smith, St. Catharines ; No. 9, T. H. Parker, Woodstock ; No. 10, A. McD. Allan, Goderich ; No. 11, John Little, Fish Creek ; No. 12, Hugh Smith, Sarnia ; No. 13, Chas. Hickling, Barrie.

Auditors—John Carnegie, Peterborough ; Chas. Drury, Crown Hill.

D. W. Beadle, St. Catharines, was appointed Secretary and Treasurer by the newly-elected Board of Directors.

THE AGRICULTURAL DIVISIONS.

- No. 1. Stormont, Dundas, Glengarry, Prescott and Cornwall.
“ 2. Lanark, Renfrew, City of Ottawa, Carleton and Russell.
“ 3. Frontenac, City of Kingston, Leeds, Grenville and Brockville.
“ 4. Hastings, Prince Edward, Lennox and Addington.
“ 5. Durham, Northumberland, Peterborough, Victoria and Haliburton.
“ 6. York, Ontario, Peel, Cardwell and City of Toronto.
“ 7. Wellington, Waterloo, Wentworth, Halton, Duferin and City of Hamilton.
“ 8. Lincoln, Welland, Haldimand and Monck.
“ 9. Elgin, Brant, Oxford and Norfolk.
“ 10. Huron, Bruce and Grey.
“ 11. Perth, Middlesex and City of London.
“ 12. Essex, Kent and Lambton.
“ 13. Algoma, Simcoe, Muskoka and Parry Sound.

DIRECTORS' REPORT.

To the Members of the Fruit Growers' Association of Ontario.

GENTLEMEN,—This is the first time in the history of this Association when its Annual Meeting has been held apart from that of the Provincial Agriculture and Arts Association. Your Directors felt that inasmuch as several meetings of the Association had already been held in the City of Ottawa, and many other places were very desirous that we should hold a meeting in their municipality, we would be consulting the welfare of the Association, and accomplishing a greater good, to hold our present meeting in this pleasant Town of Barrie. The paramount object of this Society is the dissemination of information on fruit growing, forestry, and general horticulture, and we believe that one very important means of doing this is by the holding of our meetings in as many different places as possible, and not by centralizing them in the large cities. We think that the experience of the past fully justifies this opinion.

We find that the membership during the past year has not quite equalled that of the preceding, being for this year 2,478, as against 2,600. We had hoped that it would have increased to at least 3,000, instead of diminishing, for the small annual fee of one dollar is fully returned, yea, more than repaid, by the information contained in its publications. The Treasurers Report will show a small balance in hand, not quite enough, however, to pay expenses to the end of the year.

The meetings of the Association have been well attended. The winter meeting held at Woodstock was more than usually interesting, owing largely to the presence with us at that time of Mr. Woodward, now one of the editors of the *Rural New Yorker*, Mr. Garfield, the Secretary of the Michigan Horticultural Society, and Mr. George Scott of Ann Arbor, Michigan—all of them being indirectly communicative of their large experience in a way that added materially to the interest of the occasion. The summer meeting was held in Barrie, which, though not so largely attended, was the means of eliciting much valuable information. The discussions at both these meetings were taken down by an excellent stenographer, and will appear in full in our annual report.

We now return to you the trust committed to us, again reminding you that there is no occasion for complaint that the same men are continued in office too long, as the remedy is wholly in your own hands to select such officers and directors for the ensuing year as you think will best promote the interests of this Association.

Respectfully submitted,

WM. SAUNDERS, *President.*

TREASURER'S REPORT.

<i>Receipts.</i>	\$	cts.
Members' fees	2,478	00
Government grant	1,800	00
Advertisements	48	92
Total receipts	4,326	92
Balance from last audit	637	90
	\$4,964	82

Disbursements.

Audit, 1883	\$20 00
Reporting three meetings.....	175 00
Express and freight	34 28
<i>Canadian Horticulturist</i>	2,129 00
Postage	158 42
Stationery	14 15
Caretaker of rooms	3 00
Telegraphing	2 24
Guarantee premium.....	20 00
Commissions, collecting members' fees	223 86
Directors and Committees' expenses	733 77
Plant and seed distribution	474 05
Advertising and printing.....	127 25
Sundries	13 14
Clerk	150 00
Secretary	200 00
Editor	400 00
<hr/>	
Total disbursements	\$4,878 16
Balance on hand	86 66
<hr/>	
	\$4,964 82

BARRIE, October 1st, 1884.

We, the undersigned Auditors have duly examined the Accounts of D. W. Beadle, Secretary-Treasurer of the Fruit Growers' Association of Ontario, and find them properly vouched for and correct.

JOHN CARNEGIE, }
HENRY BIRD, } Auditors.

ANNUAL ADDRESS OF THE PRESIDENT OF THE FRUIT GROWERS' ASSOCIATION OF ONTARIO.

GENTLEMEN,—The progress which has been made in fruit culture in Ontario during the past twenty years is astonishingly great. Previous to this our tables were scantily provided with fruit, and a large proportion of that consumed in our Province was imported from the United States. Now we grow the most luscious fruit in the greatest abundance for home consumption, and have a large surplus for export. At one time it was believed that the climate of most parts of our Province was unfavourable for fruit growing, but experience has demonstrated that it is peculiarly adapted for developing the finest quality and highest flavor, particularly of apples, and hence the apples of Ontario are now deservedly classed among the most highly esteemed fruits both in Europe and the United States. In the progress made this association, over which I have of late had the honour to preside, has been an important factor, — indeed it may be said to have been the mainspring, the moving as well as the directing power.

The record of the work of our Association since its incorporation in 1868 is well known from the excellent reports annually published, but there are not many who are familiar with the particulars relating to its origin and early history. To the late Judge Campbell, of Niagara, and the late Dr. Craigie, of Hamilton, belong the honour of being its originators. The idea had occurred to them that an organization amongst fruit growers, followed by meetings at stated periods, would be productive of good and stimulate the progress of fruit culture throughout the Province. They communicated their views to the late Dr. Beadle, of St. Catharines, and to Mr. George Leslie, Sen., of Toronto, who both heartily endorsed the scheme. Finally it was resolved to call a meeting which was

held on the 19th of January, 1859, in the Board room of the Mechanics Hall in the city of Hamilton, the four gentlemen named with fourteen others being present. It was unanimously decided to form a Fruit Growers' Association for Upper Canada, and Judge Campbell was made its first President. Dr. Hurlburt, 1st Vice; Mr. George Leslie, 2nd Vice; Arthur Harvey, Recording Secretary; I. D. Hemptreys, Corresponding Secretary; and Edmund Kelly, Treasurer. The first item in Mr. Kelly's treasurer's book is an entry of \$10 received from Judge Campbell, who thus became the first life member. Unfortunately he was not destined to enjoy his honors long, for within a year death removed him from the little circle. He was sorely missed and for a time the association languished; but at length, after a lapse of nearly two years, through the efforts of Dr. Craigie the members were called together again on the 21st of September, 1860, during the time of the Provincial Exhibition in Hamilton, when nine members responded to the call. Dr. Hurlburt, the first Vice-President, occupied the chair. After a brief session they adjourned until the 24th of the following month, each member being requested to bring with him then specimens of fruit. There were 17 present at this meeting, a good show of fruit was made, and some profitable discussions took place. Before adjourning it was resolved to meet again on the 16th of January, 1861, that being the time fixed for the annual meeting and the appointment of officers. At this meeting the Vice-President, Dr. Hurlburt, delivered an address on the culture of the grape in Canada; three fruit reports were also read. During the period referred to Mr. John A. Bruce had succeeded Mr. Kelly as Treasurer, and at this meeting the late Judge Logie, of Hamilton, was elected President; Dr. Hurlburt, Secretary, and our present efficient Secretary-Treasurer, D. W. Beadle, was appointed to the office of Treasurer. Soon it was found inconvenient to have the office of secretary distinct from that of the treasurer, when the two offices were combined and given to the present incumbent, who has served you faithfully and acceptably for twenty-two long years. He has during this period devoted his best energies to the work of the association, has shown untiring zeal and great ability, and is growing grey in that service to which he has devoted so large a portion of his life. While I acknowledge with pleasure the valuable aid rendered by my much esteemed predecessors in the presidential chair, the lamented Logie, W. H. Mills, Dr. Burnet, and P. C. Dempsey, and esteem it an honour to wear their mantle, I feel free to say, with no fear of contradiction, that the Fruit Growers' Association of Ontario owes its present high position and influence more to its able Secretary than to any other man belonging either to the past or the present. Judge Logie held the office of President for six years, during which period meetings were regularly held two or three times a year, and much information brought out in the discussion of questions relating to fruit culture. These meetings were held in Hamilton, St. Catharines, Toronto, Grimsby, and Paris, and were productive of much good. Some of the information gained was published in pamphlet form, issued in 1863, in which returns made by the secretaries and fruit committees from thirty counties of Ontario were printed, enumerating the varieties of fruit most successfully grown. In January, 1867, the society had attained a membership of thirty; at that meeting Judge Logie retired from office and was succeeded by Mr. W. H. Mills. During the year following the society was incorporated under the Agriculture and Arts Act under the name of the "Fruit Growers' Association of Ontario," and became entitled to receive from the public funds of the Province a grant of \$350 a year. The wise policy of our government in granting us this substantial aid in our work, and thus enabling us to collate and publish the experience gained by the active workers among our members, has been productive of the happiest results.

From that time forward the work has made rapid progress; the membership increased to over 200 the following year, and the number now amounts to 2,500; a vast accumulation of the most useful and practical information has been scattered broadcast over the land; many of the problems which worried the early fruit-grower and taxed his limited resources have been solved, and the difficulties in the way of successful fruit-culture lessened. We may point with pardonable pride to our fifteen annual reports and the six volumes of the *Canadian Horticulturist*, publications whose advent is hailed with pleasure by all lovers of fruits and flowers. It has been the aim of our Association to give correct information as to the varieties of fruit best adapted to the varying conditions of soil and climate found in the several sections of our Province, how best to overcome

the difficulties in the way of progress, and to encourage fruit-culture and horticulture in all its departments. The enlargement of our field of usefulness has been attended with increased expenses which have been met partly by an increased grant from the public funds and partly by the subscriptions of our members. In expending the moneys so received, it has been the constant aim of your officers and directors to confer the greatest benefits possible on the largest numbers, and much success has attended their efforts. By the yearly distribution of plants, trees, etc., the grounds of every member have to some extent been made experimental. Many promising varieties of fruits have been tested, and in many instances they have proved exceedingly valuable to their possessors. Among the more valuable fruits which have thus been brought into general notice in Ontario are the following: Apples—Grimes' Golden, Ontario, Swayzie Pomme Grise, and Canada Baldwin. Pears—Clapp's Favourite, Beurre d'Anjou and Flemish Beauty; the McLaughlin and Glass' Seedling plums; and of grapes, the Brighton, Moore's Early and Prentiss, besides several small fruits of good quality. Among the things distributed are some which have only partially succeeded, but this is what was expected: if universal success had been assured it would have been no experiment. Although failure is by no means gratifying, we often learn as much from it as from success; indeed, nothing will make one pause and think and endeavour to trace out the relationship between cause and effect more than occasional failure.

While on this subject of distribution it is fitting that I should call the attention of members to the selection which has been made for this purpose for next year. One of the things offered is the hardy western Catalpa, *Catalpa Speciosa*, a handsome tree with large soft foliage, and bearing fine clusters of beautiful flowers early in the summer, succeeded by very long and curious pod like seed vessels. This tree has been planted very extensively in the Western States, both as wind breaks and for economic purposes, and being a rapid grower and very hardy it has endured severe vicissitudes of climate and given remarkable satisfaction. The durability of the wood makes it valuable for fence-posts and for furniture. As an ornamental tree it has few equals: it has, as far as I know, proved hardy wherever it has been tried in Ontario, and deserves to be better known throughout the length and breadth of our Province. Several years ago your directors secured some fifty or more varieties of hardy Russian apples with the view of propagating them, in order that they might be tested in some of the colder sections of our Province where the better sorts of apples have failed. These are now ready for distribution, and will be sent out as yearling trees to such members as may desire them. Few, if any, of these are likely to prove equal in quality to the best apples now in general cultivation, but we believe they will be most acceptable to the settlers who have made their homes in those portions of our Province where the cold is most severe. As alternatives, members will have the privilege of selecting a bush of that excellent new red currant, Fay's Prolific, a double Dahlia root, or three packages of flower seeds. When one considers the many advantages of membership in our Association, where members really get about \$3 worth of the most valuable material for the \$1 paid as membership fee, it seems strange that so many are content to remain outside the fold.

Fears have often been expressed that with the ever-increasing area of land devoted to fruit culture our markets would before long be overstocked, and the business become unprofitable. I can clearly recall the first appearance of home-grown cultivated strawberries in the market at London, and the confident predictions made by the wise ones that it would never pay to cultivate these larger strawberries where wild ones could be had for the picking: besides, it was urged that the market would soon be overstocked, and what then would these enterprising enthusiasts do with their products? At that time a few quarts sufficed to supply the demand which it now takes hundreds of bushels to meet. Experience has conclusively shown that the public taste for fruit keeps pace with the increased production; these desirable products are now almost constant articles of diet, and their healthfulness is universally conceded. Those who closely study the rates of mortality tell us that within the past twenty years the average of human life has been materially lengthened, and, while this may be largely due to improved sanitary conditions, there is little doubt but that the healthy addition to our diet of a larger proportion of fruit has also been an important element in bringing about this desirable result.

In my address last year I referred at some length to the fruits of the colder portions of northern Europe, to the probability that many of the better sorts would be extremely valuable to us, and expressed the hope that before another twelve months we should have growing in our Province many of the better varieties of cherry, plum, pear and apple for which that district is noted. These hopes have been realized. Three packages of trees, shrubs and fruits have been received from northern Russia, and, notwithstanding the difficulties attending their preservation during so long a journey, a considerable proportion have been saved, among them the celebrated Vladimir cherry. Besides the fruits, we have secured a number of hardy ornamental trees and shrubs, some of which will, we trust, prove valuable. During the year Mr. Charles Gille, of Abbotsford, has published much valuable information in the report of the Montreal Horticultural Society on the Russian apples. A large number of varieties are described, and many knotty points in nomenclature unravelled.

The fruit grower has not been without his trials and disappointments during the past season. Fruit trees and vines in most localities passed the winter well, and the spring opened with the promise of abundant crops, but on the 28th and 29th of May severe frosts occurred, the thermometer going as low as 27° in our neighbourhood, and this just at the time when the apples and early strawberries were in blossom, and the young foliage of the grapevines well expanded. The grape crop was almost entirely destroyed, the early strawberries greatly injured, and the apple crop partially destroyed. Notwithstanding this injury the later strawberries yielded well, and the apple crop has been better than for the past two years, while the crop of raspberries has been very abundant.

I propose on the present occasion to call your special attention to a few of the small fruits. Wonderful advancement has been made in some of these during the past few years, a large number of new varieties have been added to the lists, many of them of excellent quality, some of which are earlier, and others later than the older sorts, thus materially extending the season for these fruits, which is a point of very great importance. To briefly review the progress thus made, and to indicate the varieties most in favour at the present time, as well as the most promising of the more recent introductions, will not, I trust, be unprofitable. There are no fruits which can be so extensively and profitably grown in this country as the small fruits. Being comparatively low in stature they are so protected in the colder regions in winter by nature's mantle of snow that in many of the tenderest sections, where deep snow prevails throughout the entire season, some of the tenderest sorts, especially of raspberries, succeed well—varieties which are grown with difficulty in the most temperate parts of Ontario. Where these favourable conditions do not obtain most of the small fruits may be easily protected; hence there is scarcely any location where they cannot be successfully cultivated. Further, there are no fruits which make such prompt returns. Strawberries planted in the spring and properly cared for yield a full crop the following season; raspberries and blackberries, a partial crop, with a full crop the second year; currants and gooseberries, also, if the bushes are two years old when planted, usually come well into bearing the second year after planting. In consequence of these prompt returns and the almost universal adaptability of the fruits referred to, it is reasonable to expect that the interest manifested in their cultivation will be a constantly increasing one, indeed it is difficult to estimate the advancement which will probably be made in this department during the next decade.

In order to arrive at correct conclusions on many of the points presented, I have taken occasion during the past summer to visit a number of our prominent fruit growers, and have thus had the opportunity of seeing many of the varieties referred to in fruit, and of judging of their merits. I have also had the advantage of the opinions and counsel of others which the limited time at my disposal would not permit me to visit. In this way I have the pleasure of presenting not only my own opinions, but in some measure jointly, those of such men as D. W. Beadle, Edward Morris, P. C. Dempsey, A. M. Smith, John Little, W. W. Hilborn, T. C. Robinson, E. Morden, E. Beggan and others, and if there is safety in a multitude of counsellors I shall hope to present to you, as the result of my investigations, conclusions which it will be safe at least for the present to follow.

STRAWBERRIES.

The strawberry, being the earliest fruit of the season, will first claim our attention. The cultivated varieties so deservedly popular in America are believed to be the progeny of crosses between the *Fragaria Grandiflora* of South America with our native *Fragaria Virginiana*, while the European sorts are said to have their origin in a similar manner from crosses between *Fragaria Chilensis*, of South America, and *Fragaria Vesca*, of Europe. The *Chilensis* has light coloured fruit and is less hardy, and the effect of this is seen in the general lighter colour of the progeny, and their inability to endure well the cold of our severe winters. As far as can be ascertained, the first of the American hybrids was Hovey's seedling, a variety which made its appearance in 1834, just fifty years ago. It held a prominent place in the estimation of strawberry growers for a very long period, and is still cultivated to some extent. Strawberries are divided into two classes, the pistillate and the hermaphrodite. The pistillate forms have the female organs in the flower well developed, while the pollen-bearing male organs are imperfect. Those known as hermaphrodites have perfect blossoms, in which both male and female organs are fully developed. In planting strawberries it is necessary to bear in mind this distinction, for, should a plantation be made of all pistillate forms the crop will be a failure: in such case all that is necessary to secure fruitfulness is to plant a row of one of the pollen-bearing varieties between every third or fourth row of the others, when the busy bees and other insects will carry the pollen from flower to flower until the whole are fertilized. I have enquired into the merits of more than sixty varieties of strawberries, all of which have been or are being tested in our Province; but I do not propose to weary you with a description of each, but to refer briefly to the leading sorts grown, adding those among the newer ones which seem to be of special promise.

Crescent.—This is a pistillate variety, a vigorous grower and hardy, and is said to be the most productive of any strawberry grown. The berry when ripe is bright scarlet, and it colours on all sides equally, so that all red berries can be picked. In size it is medium to large. It begins to ripen with the earliest and continues to fruit for a long period. Although the flesh is somewhat soft, the berries are firm enough to bear shipping to a near market. In quality it is much the same as Wilson; acid and not high flavoured; succeeds well on both sandy and clay soils.

Wilson.—This is an old variety, with perfect flowers, very hardy, vigorous and productive, being medium to large, dark red, acid. When fully ripe it is of very fair quality, but it seems to require high cultivation to keep up its fertility.

Manchester.—A pistillate variety of recent introduction, a vigorous grower and very productive. Fruit of large size, regular form, bright red colour, firm in texture, and of good quality; adapts itself to all soils, and is very valuable for home use or market; season, medium to late.

Daniel Boone.—This is another of the lately introduced sorts, having imperfect flowers. The plant is a vigorous grower, with excellent foliage; fruit large, of a clear red, firm in texture and of good quality; season medium; grows well either in sandy loam or clay; one of the most profitable varieties in cultivation.

James Vick.—There is some difference of opinion as to the relative value of this variety, but the general feeling among strawberry growers in Ontario is in its favour. In size it is generally smaller than Wilson, the berries are very uniform, and so many ripen at once that they are easily picked. It is very productive, the fruiting stems being sturdy and upright, bearing the fruit well up above the leaves; ripens late. It is strongly recommended by many growers as a good market sort.

Mrs. Garfield.—This is a seedling of *Crescent* of recent introduction. Grown on a rich clay loam it succeeds well and is very productive. The fruit is large, of regular form, bright glossy red, with a firm flesh and high flavour. On sandy soil this variety does not always give satisfaction; ripens early.

Golden Deliance. A pistillate variety of much merit. The plant is vigorous and very productive. Fruit medium to large, regular in form, of a crimson red colour with golden seeds; flesh moderately firm, but not firm enough to carry well to distant markets;

of delicate texture and good flavour : sweet, with sufficient acid to make it sprightly : season, medium to late.

Cumberland.—This is a large and handsome berry, regular and uniform in outline, of a light red colour, and agreeable flavour. It is too soft for shipping long distances, but valuable for home use and a near market. In some localities it proves vigorous and productive ; in others the crop is said to be variable.

Bidwell.—In size and flavour of fruit this berry ranks among the best. It is conical in form, occasionally flattened, of a bright glossy crimson colour, assuming a darker hue as it becomes fully ripe ; the flesh is moderately firm, a red colour, juicy and sub-acid. The plants are usually vigorous and productive, but in some sections the crop is not so reliable ; a variety held in high esteem by most cultivators ; berries sometimes green at the tip when otherwise ripe.

Captain Jack.—Grown on a rich clay loam this strawberry is said to be very productive, and having perfect blossoms, which produce an abundance of pollen, it is a good sort to plant between the rows of Crescent, Manchester, or Daniel Boone. It produces a good-sized berry, firm in flesh and of fair quality. On suitable soil this is a profitable late market sort, but it seldom does well on sandy soil.

Kentucky.—A large roundish conical berry of fair quality, of a dark red colour and firm texture, which ripens late and succeeds best on sandy loam. It has perfect flowers, is very vigorous and productive, and stands shipping well.

Arnold's Pride.—A seedling of the late Charles Arnold's, being very large, bright red and of good flavour : ripens late ; a good variety, but one which requires rich soil to bring it to perfection.

In addition to the twelve varieties described, there are many other good sorts among the older varieties, and some which are very promising among the newer ones. Sharpless is still much cultivated ; the berry is large, irregular in form and of good quality, but is often green at the tip when otherwise ripe. Mount Vernon is a good late strawberry, which is very productive on clay soil. Early Canada is of value in some sections as an early market berry, provided it escapes spring frosts. Maggie and Bright Ida, two of the late Charles Arnold's seedlings, have succeeded well in many locations. Piper's Seedling, Duncan, Longfellow, Cinderella, Mary Fletcher, Shirts, Seneca Queen, Legal Tender, Lacon, Atlantic and Grand Duke are all deserving of favourable mention. Among the newest varieties, Cornelia and Prince of Berries are especially promising. Cornelia is a very late berry, of large size and good quality, and very productive. Prince of Berries is a strong grower on either sandy or clay loam, producing large berries of fine form, good colour and very superior flavour.

RASPBERRIES.

In this department also some of the newer varieties, on account of their greater merits, are fast crowding out the older sorts. A few years ago the praises of the Philadelphia were heard on all sides ; now it is in the background, and stands a fair chance, notwithstanding its many good qualities, of being to a great extent superseded. In addition to the red raspberries we have the cap varieties, black, yellow and dark red, a numerous family.

Cuthbert, or Queen of the Market.—Among the red raspberries none are more highly esteemed than this. The plant is hardy, a strong grower, and an abundant bearer ; fruit large, conical, with a bright colour and good flavour, and firm enough to market well ; season, medium to late. Occasionally in severe winters the canes are injured in some localities at the tips.

Turner.—This is one of the hardiest of raspberries, a vigorous grower, with large foliage, and is very productive. The fruit is of medium size, bright colour, moderately firm, juicy, sweet and high flavoured, ripening a few days earlier than Cuthbert. The plants throw up suckers very freely, which must be cut off with the hoe in order to secure good crops of fruit.

Philadelphia.—An old and well tested variety ; an immense bearer ; berries smaller and inferior in quality to either of the last two named.

Highland Hardy.—Valuable chiefly for its earliness; is a poor grower, but a good bearer; berries medium in size, of a bright colour and good flavour, but soft in texture.

Delaware.—Hardy; a strong grower and good bearer; about the size of Turner; sweet and high flavoured, but too soft for shipping. *Reine des Reines* also is said to have excellent qualities, which entitle it to rank among the best.

Shaffer's Colossal.—This is a dark red or purple fruit, belonging to the cap varieties; of large size, with a sprightly sub-acid flavour; not attractive as a market fruit on account of its dull color, but excellent for canning. The plant is an enormous grower and a profuse bearer; season, medium to late.

Caroline.—A yellow cap variety, with an orange tint and good flavour; size, medium to large; texture, soft; a strong grower, hardy and prolific.

Mammoth Cluster.—A black cap; a vigorous grower and good bearer, hardy; fruit of large size, sweet and of good quality; one of the best.

Grogg.—A later variety than Mammoth Cluster; a strong grower and very prolific. Berries large, but not very juicy; has proved tender in some sections of our Province.

Hopkins, Tyler and Seaboyan are three black caps which ripen about the same time, and resemble each other closely. They are all of fair quality, are good croppers and hardy.

Ohio.—Also a black cap of fair size and quality; a vigorous grower and good bearer; hardy.

Hilborn.—A seedling of W. W. Hilborn's, of Arkona, Ont.; of good quality; ripens a week earlier than Mammoth Cluster; a good cropper, hardy. Not yet disseminated.

I must not weary you with further details. In this hasty sketch I have scarcely been able to do justice to the many beautiful varieties which grace our tables and gratify our palates during the summer months. The lists of strawberries and raspberries given are not by any means exhaustive, but include the most esteemed of the varieties in general cultivation. There are other good sorts, but they are believed to possess fewer points of excellence than those I have named. A list of this character will need frequent revision to keep it up to the times, for the reason that new claimants for public favour are constantly appearing, combining points of excellence which entitle them to take rank with the best, and what the progress may be in future in this line no one can predict. Could any person have foretold fifty years ago the existing state of things his story would have appeared as strange and unreal as a fairy tale. We cannot fully appreciate the marvellousness of the change, for it has grown on us gradually, and the effects of one surprise have partially worn away before the next one has presented itself. How noble and benevolent a work is ours to be permitted to aid in any small way in introducing or originating varieties which shall enlarge the area of fruit culture, and add to the pleasures and benefits which this beautiful world thus confers on mankind!

What a potency there is in nature's germs! What possibilities are locked up within the compass of a single seed, say of a strawberry or raspberry! New points of excellence lie latent there, only waiting favourable opportunity for development. And how profuse and lavish is nature in the production of such germs! Millions of strawberry seeds are wasted where one is germinated; what possibilities must be sacrificed among the millions which thus perish! Fortunately the tendency of nature is to repeat herself, and the losses of the past are thus often among the possibilities of the present. Did time permit me to sketch the progress which has been made in all the departments of this interesting field, you would see more fully the advantages we are privileged to enjoy as compared with those of past generations. To man has been entrusted the care of all the beautiful forms of animal and vegetable life, and he should be especially concerned with those which contribute to the supply of his immediate wants. Man is in some sense responsible for the maintenance of the high standard of quality and productiveness which nature presents when a new form is first unfolded to him. I have already referred to the tendency there is in nature to repeat herself, but the conditions must be favourable or deterioration will sooner or later occur. There is in this respect a similarity between the animal and vegetable world, but the bad effects of ill treatment are not always so promptly seen in the latter as in the former. What breed of stock would long sustain its good points if the smallest and poorest animals were regularly selected for propagation? Yet farmers and others often use their smallest potatoes—which are worthless for most other purposes—for

seed. Is it any wonder when such a course is long persevered in that varieties die out? Where are the Pink Eyes and Peach Blows which were so much esteemed by our fathers? They have disappeared; given place to the Early Rose and Climax, and these in turn have become in many instances uncertain croppers, and have been partially replaced by the Beauty of Hebron and others. No stock-raiser would expect to raise good stock if the animals were neglected and insufficiently fed in their youth. Strawberries and raspberries sometimes fail to give those returns which the grower expects. In such cases it would be well to enquire whether the young plants when obtained were in that healthy condition necessary to robust growth; also, whether they have since been reasonably well fed. To produce good growth and maintain the vitality of plants which fruit so abundantly you must feed with a liberal hand, supplying to the soil those elements of nutrition most required. If this is done there will rarely be disappointment, for the gifts of nature are bestowed by a bountiful giver who has promised that seed time and harvest shall not fail.

REPORT OF COMMITTEE TO WHOM THE PRESIDENT'S ADDRESS WAS REFERRED.

To the Fruit Growers' Association of Ontario:

The Committee to whom was referred the President's address beg leave to report that they consider this address well deserving of the warmest thanks of your Association on account of its general interest, and more particularly of its several features of special value. Among the latter your Committee would call attention to the interesting *résumé* given by the President of the history of the Association. The facts therein stated are, many of them, new to the younger members, and it is highly proper that they should be placed on record among the papers of your Society.

We also feel that the favourable references made by the President to the long and valuable services of your Secretary-Treasurer are thoroughly merited, and we trust the Society may for many years to come enjoy the services of this efficient officer.

Among the special features of value of the President's address your Committee also desire to commend the references to apples and small fruits. No greater boon can be conferred upon our members than the expressed opinion of such men as your President, deliberately and carefully formed after visiting the grounds of, and conversing with, experienced fruit growers, on the most valuable varieties of such fruits and on the nature of the soils and climate required to bring them to perfection. We here have in a few words from a capable and reliable source an opinion which would require the expenditure of much time and money to obtain in any other way; and your Committee hope that such opinions will be freely expressed from year to year in all future annual addresses from your President and his successors in office.

We think also the short reference to the plants for distribution a good feature in the address, as an aid to the members in making these selections, and we hope this also will become a "feature" in the President's annual address.

In concluding, your Committee would recommend the publication of the address at as early a date as practicable, in order that all the members may avail themselves of the observations upon small fruits and plants for distribution, without the loss of another season.

All of which is respectfully submitted.

WILLIAM ROY, Chairman.
J. C. MORGAN,
CHARLES DRURY.

BARRIE, October 21st, 1884.

REPORT OF DISCUSSIONS AT THE ANNUAL MEETING.

The annual meeting of the Fruit Growers' Association of Ontario was held in the council chamber of the Town of Barrie, on Wednesday and Thursday, October 1 and 2, 1884.

At 10 a.m. on Wednesday, October 1st, the President, Mr. William Saunders, took the chair and called the meeting to order.

The Minutes of the last annual meeting were read and confirmed.

NEW VARIETIES OF STRAWBERRIES.

The first subject for discussion was "the most desirable new varieties of strawberries, and their particular merits."

Mr. JOHN LITTLE, of Fish Creek, introduced the subject by reading the following paper:

A FEW THOUGHTS ON THE STRAWBERRY, ITS CULTURE AND VARIETIES, AND WHAT HORTICULTURE DOES FOR THE COMMUNITY AT LARGE.

According to the programme mentioned in the September Horticulturist it will be the pleasing duty of this meeting to discuss the varieties and merits of this delicious fruit, the strawberry. We will, in treating of this fruit, consider varieties as nearly as may be in the order of their ripening; remarking, however, that owing to the exceptional character of the season their several periods of ripening will be likely to vary in other seasons. The Crescent, as usual, heads the list, both for earliness and as a fruiter. None can compare with it. The colour is beautiful, and it is firm enough to carry to a not too distant market. The Phelps, or Old Ironclad, maintains the claims made for it as to earliness; in form, size, colour, quality and firmness it resembles the Wilson, but ripens much earlier, and the plant is a most rampant grower. This is the most desirable general purpose early sort I have yet fruited, and a profitable kind for market.

Mr. DEMPSEY.—Is the Phelps earlier than the Crescent?

Mr. LITTLE.—No, it comes in just about the same time, but it is a superior berry. The Mrs. Garfield, a Crawford seedling, after five years' test on my place still maintains its reputation for size, quality and appearance. Robert Johnston in his fruit notes expresses regret that it was sent forth as an early berry; he says it is a medium berry, and one of the very finest either for the amateur or for market. The Daniel Boone I have had for the same length of time, and it is still all I claim for it—the plant, a large healthy grower, and the fruit large and beautiful, and plenty of it. This berry belonged to A. B. Webb, of Kentucky. I have picked thirty berries of the Daniel Boone that heaped up a Disboro quart, which is equal to the imperial measure. I have the Manchester, the Jersey Queen and the Big Bob. People talk about pistillate strawberries that will not produce fruit unless they have something of the staminate nature beside them that will cause them to fructify; but these three I planted near a row of apple trees, forty rods or more from any other strawberries, and they produced as good fruit as when they were planted among the Wilson, or Captain Jack, or some other berries. I maintain that there is hardly a berry but will produce fruit if the season is favourable. The Manchester has proved of great value on our place: the plant is large and vigorous, and bears enormous crops of large, fineshaped berries. The gentleman who sent forth the Big Bob has a very glib tongue, I can tell you: he can even make the black appear to be white, and he condemned the Manchester and told the world that it was nothing but the Old Hovey. Time has proven that it is not the Hovey at all, and he had honour and honesty enough in his July paper to acknowledge that he was mistaken, and I give him

credit for it. It is a magnificent grower, a bountiful bearer of berries that will satisfy the most fastidious taste, and will ship well for a great many miles. The next is the Lacon; the time of ripening is medium; it is a splendid plant, as firm as the Wilson, larger, and more productive, but the flavour is no better than that of the Wilson. The Atlantic, which comes from the home of the Manchester, is a vigorous, healthy plant, and a good bearer of medium to large berries of good quality. The Cornelia is the next variety I will refer to. It is the latest of all strawberries. One gentleman, Mr. J. T. Lovell, of New Jersey, wants five dollars a dozen for it. I give you what he says about it, as he saw it on the originator's grounds in Ohio, fruiting in a most severe drought: "It surpassed, I thought, anything in the way of strawberries that ever came under my observation. A basket of fruit which I took with me to the Nurserymen's Convention at Chicago elicited the warmest commendation from all who examined it." The testimony of Mr. Purdy in the *Front Recorder*, is: "We have received from Mr. Crawford, of Ohio, two baskets of his new strawberry, the Cornelia, on the 20th of July—one basket picked on the 17th, and the other on the 18th. They are monsters, running from five to eight inches in circumference; colour, dark and scarlet; berry, meaty, juicy, luscious; coming through in two of the hottest days of the season, shows them to be good shippers." That is the latest and largest berry in cultivation; I have fruited it for five years and I am not ashamed to stand by that test.

Mr. GOLDIE.—How is it flavoured?

Mr. LITTLE.—The flavour is passable, nothing extra; but you know that in going to market, the large, well coloured fruit is the one that commands the price. The Sucker State is a rank, healthy grower, large and uniform, and a heavy yielder. The Connecticut Queen has a plant equal to the Sharpless, is prolific and very late, the berries are large, firm, of good form and extra high quality. The Prince of Berries is a strong, vigorous plant, which produces large, excellent berries, but like all of Mr. Durand's seedlings it requires such high culture that but few can give what it demands in order to succeed.

Mr. BEADLE.—Mr. Wilder says of it in the September Horticulturist that it is "handsome, productive and of high flavour."

Mr. LITTLE.—Mr. Durand's specimen beds are five or six feet deep, and consist of material that is fit to grow mushrooms. The berry, however, is a very good grower.

The PRESIDENT.—Is it prolific?

Mr. LITTLE.—I cannot tell you that. I have not fruited it enough yet. The last variety which I have noted is the Legal Tender, a vigorous grower, and productive, but the fruit is not large.

Having concluded his remarks on the new varieties, Mr. Little exhibited a collection of strawberry plants, embracing fifty-two varieties, which he proceeded to describe in some detail, distributing the plants at the same time among the members present. Here, he said, is a seedling, which, when it comes out will be called the Pennsylvania—an American seedling.

Mr. BUCKE.—What are the accounts of it?

Mr. LITTLE.—It is said to be very prolific and to produce large berries, and to be on the medium side. Here is the Pawtuxet, one of the most beautiful berries for flavour that you can find. Here is a plant which was sent to me by Mr. Ryan, of Michigan, the Cetaweyo, and it was the only one of my plants that escaped the frost last spring. Here is the Grand Duke, which was originated by Mr. Adams, of Massachusetts, from whom I obtained a hundred plants. Its quality is good. The James Vick was first sent to me by Mr. Green as the Moonstone, but when he found he could make something out of it by changing its name to James Vick he did so. If you plant it in matted rows, and take care of it, you will get a berry that will ship from here to Montreal and back. The Seneca Queen is a very fine plant, and the berries are beautiful and delicious, and will ship far enough. The Mount Vernon I need hardly tell you anything about; no man need be afraid to plant it either for market or for home use; it matures its fruit very rapidly, and every berry ripens.

The PRESIDENT.—What is the quality of the berry?

Mr. LITTLE.—Middling only; but anything that is "eyeable" will sell in the market. The Black Giant is next to the Pawtuxet for flavour. I have also the Primo.

Mr. BEADLE.—Mr. Wilder says that the Primo is “large, uniform, late, very good and prolific.”

Mr. LITTLE.—When I first tried to get the Park Beauty I got the Crescent Seedling instead; but they are not the same. I fruited the Park Beauty last year, and it is a different berry from the Crescent altogether. No one need be afraid to plant it for market or anything else. The Continental will come about as early as any other variety, and will give you as many berries. The Countess is pretty much like the Mount Vernon.

Mr. A. M. SMITH.—Have you the New Dominion or the Old Dominion?

Mr. LITTLE.—I have neither the New nor the Old Dominion, nor the Early Canada; but I give the man credit who sent them out. The Cumberland Triumph is a large handsome berry. The Monarch of the West has one fault, but a dozen on a saucer will nearly fid it, and if you put cream and sugar on the berries you will hide its fault. The Norman is another seedling of Mr. Crawford's, and everything that comes from him is just like himself; he is a man, every inch of him, and is truthful to the backbone. The Norman is medium, productive, but the size of the berries makes up for the lack of numbers, and the quality of the fruit is first-rate; it is medium in the ripening. The Oliver Goldsmith is a good sized berry, but only a middling bearer; its quality is all that is desirable. Here is a berry that there is nothing like in this world,—the Wilson's Albany; but you will take that remark with a grain of allowance, for some berries which I have given to gentlemen in this room are twenty per cent. better than the Wilson ever was in its best days; still, I would recommend the Wilson yet. The Vineland Seedling is a very good berry. The Mary Fletcher Mr. Wilson likes very well.

Mr. BEADLE.—Did it not come from Nova Scotia?

Mr. LITTLE.—Yes. A good many claim that it came from Mr. Arnold, but Mr. Arnold got it from Nova Scotia. Here is another—the Howell. I have not fruited it yet, but Mr. Johnston has fruited it and speaks highly of it. The Indiana is a very fine plant. I cannot speak of its bearing qualities, as I have not fruited it yet; but Mr. Johnston, who has, speaks highly of it also. Another plant which I have fruited for the first time this year, and which I think very highly of, is the Bell, which was originated by Mr. J. B. Moore, of Massachusetts.

Mr. SMITH.—I exhibited that berry at Trenton some years ago.

Mr. LITTLE.—The Windsor Chief is a very nice berry, but do not pick it in the heat of the day, nor take it to market when it is very warm.

Mr. ROBINSON.—And get somebody else to eat it.

Mr. LITTLE.—Yes. The Jockey Cap I have fruited, but not extensively. It is another seedling which I got from Mr. Johnston, and which he thinks very well of. I should think from what I have seen of it that there is not much in it for a market berry because it is rather soft, but for twenty or thirty miles I think it might do. You all know the Jersey Queen; it is a beautiful berry and a nice grower. You all know the Bidwell also; it is a fine berry, only it has the white end, and it needs cream and sugar. There is not a berry that I know of that I think so much of for size as the Duncan. It is early, and you will have to look after it. The Eureka is medium sized, a good bearer, and of good quality. The Golden Defiance I think Mr. Robinson can tell you about.

Mr. ROBINSON.—I don't think much of it.

Mr. MORGAN.—Would Mr. Little crystallize what he has said to us. What does he consider, we will say, the best six of the newer varieties for market culture?

Mr. LITTLE.—You could not confine me to six varieties of strawberries, because I would be sure to break from such confinement. The Daniel Boone is my favourite.

The PRESIDENT.—I think, perhaps, I could name six in the order in which Mr. Little would choose them—the Daniel Boone, the Crescent, the Cornelia, the Manchester, the Wilson, and the Mrs. Garfield.

Mr. MORGAN.—What does Mr. Little think of the Sharpless?

Mr. LITTLE.—It is not as good a berry now as when it came out. Every variety will degenerate.

The PRESIDENT.—Mr. Little at the beginning of his paper ventured the statement

that pistillate varieties which were at a distance from staminate sorts succeeded very well. I was going to suggest that bees will fly forty rods as well as ten.

MR. LITTLE. — But they will not fly in wet weather; and how long will it be from the time the plants bloom until they are past fructifying?

THE PRESIDENT. — I suppose three days. Is it your belief that every strawberry plant has a certain number of stamens which will fructify its own fruit?

MR. LITTLE. — Yes.

MR. MORGAN. — I think that can be proven by microscopic examination. I think it is very rare to find a pure pistillate berry.

MR. ROBINSON. — There is a difference in these pistillate varieties. Some have more pistils than others. The Crescent has more than any other.

MR. MORGAN. — And the Windsor Chief the least.

THE PRESIDENT. — Perhaps Mr. Robinson will give us his opinion of some of these new varieties. We are very much favoured in having both Mr. Robinson and Mr. Little here to-day.

MR. ROBINSON. — I scarcely know where to begin. I like the Lacon very much; I find it perhaps the best grower of any I have tried. It is a very good sized berry, considerably above the average; though I cannot say how it will continue to keep up its size. It was very sour when I first tasted it this year, but that was during the drought, and singular to say I found it sweetened after a shower of rain. The old plants had been rather cut up to get young stock from them, yet they bore a most incredible lot of berries; I counted as many as twenty-three fruit stems on one plant. I have fruited the Daniel Boone; it is a large berry, and it seems to be hardy and a good grower. The Mrs Garfield I like very much; the quality is good, and the berry is very smooth and large, and presents a handsome appearance, but it did not do well on my soil, which contained very little clay; but I have it now on different soil where there is more clay, and I hope it will do better.

THE PRESIDENT. — Have you fruited the Cornelia?

MR. ROBINSON. — No; I have it growing on my ground, and it grows very well.

MR. BUCKE. — How does the Manchester succeed?

MR. ROBINSON. — I find it a great bearer, very regular and uniform, and quite large. I grow my berries only on the hill system, and I have picked as much as a pint to the plant on a small patch. The James Vick is a good bearer, though I find some of the berries are small. On the whole I think it worth further trial. It is a good grower and a good shipper; the only thing I have any doubt about is the size; but I would not like as yet to recommend it. The Manchester I find differs in quality in some seasons as compared with others. The season before last the Manchester was of excellent quality, superior to the Bidwell; last year the Bidwell was better; but this year I like the Manchester better again. I consider the Manchester an exceedingly respectable berry in quality — very much superior to some of the new varieties that come out. The berry which has been most productive with me and given me the most money is the Bidwell. I think I am within the figure in saying that from one patch of a quarter of an acre I got sixty bushels, measuring by the quart boxes. When I pick for the market I use the Canadian box.

THE PRESIDENT. — Have you experienced the difficulty of the green tips?

MR. ROBINSON. — That is the great drawback of the Bidwell.

THE PRESIDENT. — I heard a gentleman a short time ago say that he liked those berries with the green tips, because they gave him something to chew. Do you find that people object to the green tips?

MR. ROBINSON. — Yes, they have objected to them at first, but afterwards they have come back for the same berries.

MR. BUCKE. — How does the Sharpless succeed with you?

MR. ROBINSON. — It does not bear very well. I find that it requires considerable manure, and I do not use much. The Bidwell does well on both clay and sandy soil. The Daniel Boone did not get a fair chance with me, and I cannot speak of it positively as yet. The Mount Vernon I have tried, but I do not think anything of it. It seems to me to be a second edition of the Charles Downing; it is not firm, not exceedingly productive, and not a very good berry to eat.

Mr. SMITH.—Have you tried any of Arnold's seedlings?

Mr. ROBINSON.—Arnold's Pride is very much like the Sharpless, a fine grower, but I could not get a crop. It is a large berry and it has not that green tip that the Sharpless has. The Maggie I find one of the most productive berries in existence, so far as the blossoms are concerned, but it does not ripen its fruit well. The other two varieties I have tried are the bright Ida and the Alpha. They were very unproductive with me. The berries of the Maggie have not the fine appearance of other berries.

Mr. GOLDIE.—How about the Shirts?

Mr. ROBINSON.—It is a very good berry for home use, but not productive enough for market. It is a berry of high quality, but like all other berries of high quality it requires rich land, or else it will deteriorate in size. The Pride of Berries I like very much. It grows about an inch and a quarter in diameter, it is very firm and very glossy, and its quality I consider the best of any berries I have tested. The Golden Defiance did not give me much of a crop, but it seems to be good for market, owing to its firmness and its fine light color.

Mr. LITTLE.—Mine has not a light colour; it is red, with bright golden seeds.

Mr. ROBINSON.—I think the public prefer a berry of a bright crimson scarlet, and that is the kind of berry we want.

The PRESIDENT.—I would ask Mr. Morgan to give his experience of strawberry growing in this county.

Mr. MORGAN.—It is only about five years since I have been engaged in strawberry growing, and as my object has been simply to grow for market and not for plants I have tested the new varieties only to a very limited extent. It has only been when I have heard of a variety that has made a decided mark as a market variety that I have tried it. My fruit farm is something under twenty acres, situate about a mile from here, and I should be exceedingly glad to provide conveyances for the gentlemen present if they would this afternoon pay my farm a visit. The varieties we have grown for market I shall name in the order in which I prefer them. The Crescent, I consider, easily and decidedly ahead of all others: the Sharpless next, and the Wilson next. After that I would place the Green Prolific, which has done remarkably well with me, though in many places it is not thought much of. The Charles Downing, in the second and the third year, has yielded well; in the first year it seems to grow to leaves instead of producing fruit. The Manchester I have grown, and am exceedingly pleased with it in every respect; its quality is very much superior to that of the Wilson; it is immensely productive, and this last summer, which was an exceedingly dry one, the Manchester held its fruit and ripened it to a fair size to the end. I also like the Lacon exceedingly. The James Vick we see very little of. I confess that I have been very much disappointed with the Big Bobs sent to me. We bought two lots at different times; one lot were trash, the others are unaccountably good; but as we have so very few, it is impossible to say what this variety would show in larger quantities. My partner wished me to place the Wilson ahead of the Sharpless. That is because this year, owing to frost or some other cause, the Sharpless did not bear. The blossoms were black, and I found that not only did they not open, but the small buds inside did not open.

Several Members stated that that was owing to frost.

Mr. MORGAN.—That is explicable, then. The blossoms showed the appearance of having been nipped by some insects; this was after the fruit had formed, but under a strong magnifying glass no insect was visible. Strangely, however, the Sharpless was infinitely more affected than any other variety. The Crescent bore its crop; the Crescent was somewhat affected, while the Sharpless crop was absolutely ruined. Last year our whole crop was about 20,000 quarts; this came off about three and a half or four acres, and I think the Sharpless bore an equal weight of fruit with any of the other varieties. We grow in the matted row altogether, and give our plants some care and culture in the way of manuring. The ground was much run out when we first took hold of it, and we gave it heavy mulching with well rotted manure. I forgot to mention the Bidwell, which I would place second before the Sharpless. Last year, however, it was slightly injured by frost—the old plants only. I had a fine patch of the Jersey Queen, and it

was absolutely cleaned off by frost last winter, with the exception of a few young plants. I am strongly in favour of all the varieties that are of low growth, and I also like the foliage to be deeply serrated. There seems to be some connection between low growth, serrating of the leaf and hardiness of the plant.

The PRESIDENT.—The varieties you prefer are the Crescent, the Bidwell, the Sharpless, the Wilson, the Green Prolific, the Charles Downing, and the Manchester.

Mr. MORGAN.—I do not like to be considered as preferring the Bidwell to the Charles Downing or the Manchester, for I have not tested them sufficiently yet. My experience so far would lead me to place the Manchester side by side with the Bidwell if it does as well in extensive culture as it has done in small culture. I never knew anything to excel the Charles Downing in my garden, but in the field it does not do as well as the Wilson or the Sharpless or the Crescent.

Mr. BUCKE.—Have you tried the Daniel Boone?

Mr. MORGAN.—I have tried it, but not fruited it. The Jumbo is a magnificent fraud, although other people have described it as a very fine berry. I would like the gentlemen present, some of whom have had five or six times the experience I have had, to express their views with respect to culture for market. My friend Mr. Robinson is strongly in favour of cutting off the runners, while Mr. Little takes the opposite view. It does seem to me that we can grow large quantities for market by cutting off the runners; and I think we must grow with the matted row system. Still, I should like to hear if there is anything better.

Mr. LITTLE.—The only way in which my friend can prove the matter is to try the two systems. With regard to low growing plants, they have generally a short stem, and you cannot get your pickers to gather as many berries from low growing plants as you can from the higher ones.

Mr. DEMPSEY.—With regard to planting in a single row, I am just reminded of my own method of culture. The largest crop of berries I ever harvested from a small piece of land was 12,000 quarts from two acres. We always cultivated in the matted row system, but we always maintained that the rows should be narrow with broad cultivated spaces between them, so that when we grow a single row we have a broad space on each side. I have seen the advantage of that system proved more conclusively this year than ever before. I would advocate the rows being one foot wide, and the spaces between them two and a half or three feet. I have seen some rows three feet wide with only about twelve inches of cultivation between them; and invariably, where that style of cultivation prevailed, there was just a little streak of berries on the outside of the row that were worth picking. Something was said with respect to cutting runners. We do not think that is any trouble at all. We simply sharpen our hoes, and with them clip off the runners where we find them running too much. We just treat them as weeds wherever we find they are not required. We do not sell plants, consequently it is unnecessary for us to allow the runners to grow for plants.

Mr. MORGAN.—You cannot grow both for fruit and for plants very well, I think.

Mr. DEMPSEY.—No, I think not. For cutting the runners we use an implement with a double edge, like knives on each side. It has a flange on the bottom in the form of a letter V, the point of which comes in front. With that we can cut the runners clean to a certain width; but if they have not rooted, they will swing around.

Mr. HUGH SMITH, of Sarnia.—I would like to get some information as to the best manures for strawberries.

Mr. BUCKE.—I think Mr. Dempsey has had some experience of bone dust and ashes.

Mr. DEMPSEY.—I have had the best results from bone superphosphates or bone dust. We used to be able to get it, but lately I have been unable to do so. The makers now seem to mix a little too much of the mineral superphosphates with it, and I think they get that from the roadside or from their fields, so that we have been obliged to cease using it. The best we ever had was what we manufactured ourselves, simply by taking some second-hand pork barrels and hunting up the bones, or getting bone dust which we know is bone dust, and then applying sulphuric acid. When it is dissolved we mix the earth with it to absorb the moisture; and we have had better results from the superphosphates we manufactured in that way than from any we could buy.

Mr. BEADLE.—You dilute the acid?

Mr. DEMPSEY.—Yes, two or three gallons of water to one of acid.

Mr. LITTLE.—About what would be the expense of that manure for an acre?

Mr. DEMPSEY.—Only about fifteen dollars, not so much as stable manure

Mr. MORGAN.—And do you think it is anything like so good as barnyard manure for strawberries?

Mr. DEMPSEY.—Better with me.

Mr. BEADLE.—Have you had any experience with wood ashes for strawberries?

Mr. DEMPSEY.—Yes, and with good results, particularly on sandy land, or on spots where the plants seem to be growing poorly. By giving such plants a nice dressing of common wood ashes, say at the rate of about ten bushels to the acre, or a little more, we find almost invariably that the plants are restored and grow as vigorously as the rest of the patch. I was talking with a gentleman the other day about fertilizers. He told me he had arranged a potash kettle, and that he gathered all the old bones he could and threw them into the kettle, with alternate layers of ashes, and then he applied water to the surface in order to keep it moist. At the end of two or three months' time, he said, the mixture would become a rotten mass, and then he sowed it on the ground with his hand from a wheelbarrow. He told me he tried it on corn and on some small fruits, and that in every instance it had the effect of producing about a double growth. I thought it was a very valuable piece of information, which I picked up in a few minutes' conversation with a man in Toronto.

Mr. BEADLE.—The small bones will dissolve very readily in the way described by Mr. Dempsey, but you will after all have to pick out some large bones that will not dissolve in three months. However, if you have any way of breaking them up, they will dissolve very rapidly. If you get the bones from a bone mill, you will find that preferable to buying the bone dust, because you cannot very well be cheated; and if you lay the bones in thin layers and sprinkle ashes over them, keeping them damp, at the end of two or three months you will have a fine mass of manure.

Mr. BUCKE.—Soft-wood ashes will not do; I believe you must have hard-wood ashes.

The PRESIDENT.—Soft-wood ashes are deficient in alkali.

Mr. ROY, of Owen Sound.—I keep my barnyard manure until it is two or three years old, and I find it is the very best thing I can get for strawberries.

Mr. LITTLE.—It is all very well if you can get your barnyard manure two or three years old without any clover in it.

FRUIT COMMITTEE.

The President nominated the following gentlemen as a committee to examine and report upon the fruits on exhibition:—Messrs. Bucke, Morgan, Judge Boys, Robinson, and Croil.

The association adjourned till two p. m., and on resuming at that hour the first business taken up was the opening of the Question Drawer.

TOP GRAFTING.

QUESTION.—By Mr. A. HOOD, of Barrie.—If trees that are best adapted for clay soil are planted in light soil and are not doing well in consequence, would it be advisable to top graft with a variety which prefers light soil; or if tender varieties are growing in a climate too severe, will they be likely to do better if top grafted with hardy varieties?

Mr. BEADLE.—The first part of this question concerns something of which I have had very little experience. I do not know that I ever top-grafted a variety that did not do well on sandy soil with one that did well, for the sake of seeing what the effect would be. This question touches the matter of pears more than it does that of apples. Apples are more indifferent to the character of the soil, so far as fruiting is concerned, than pears; the soil makes more difference in the quality of the apple than it does in its fertility, which is also true of pears. There are some varieties of pears, however, that will fruit well on

sandy soil, such as the Buffam, but I cannot recall an instance of any of my neighbors grafting over the Buffam growing on clay soil, because it did not fruit well. But I am satisfied that the Buffam would grow and fruit well, top grafted into any tree whatever growing upon light soil. I do not know that I can throw any more light upon this question; it is one I have not experimented on. The other part of the question I suppose means, Will the hardy varieties which are top grafted upon a tree which is somewhat tender, be more likely to bear fruit than the original tree?

Mr. HOOD.—That is it exactly.

Mr. BEADLE.—The short answer to that is to say, yes, it will. To be sure, that answer should be given with a limitation. If the tree is so tender that it kills down to the ground, it is not of much use to graft it. There is an extreme tenderness that will not survive occasional winters at all. But if a tree succeeds in surviving two or three winters, and is top grafted with a hardy variety, that hardy variety will ripen up its wood and will follow its own peculiar habit, and the trunk upon which it is grafted is less likely to suffer from cold.

Mr. HOOD.—That is my own experience, but I thought I would like to have the opinion of some one who knew more on the subject than I do.

Mr. ROSS.—If that is the result of top grafting on tender varieties, might not a similar result follow top grafting on a tree where the soil was not exactly suitable for the tree first planted?

Mr. BEADLE.—It might, but I have not had experience of that; but the other matter has been tested and proved. If the cold is not severe enough to injure the trunk of the tree and make it black in the heart, it can be made to bear fruit. A great many of the apple trees about Guelph are failing in that way, but I have no doubt we are gradually getting a race of apple trees hardy enough to stand the cold without getting black-hearted. I presume the Duchess of Oldenburg will stand, as well as the Tetofsky and some other Russian varieties.

Mr. HUGH SMITH (of Sarnia).—If a tender variety is grafted on a hardy stock, will there be any hardness imparted to the tender stock?

Mr. BEADLE.—Not the slightest, in my opinion.

Mr. HUGH SMITH.—Because I have grafted peaches on the plum tree, and they appeared to grow when other peaches would not.

Mr. BEADLE.—That was not because the grafting of the peaches on the plum made them hardier, but because the plum tree ripens its wood earlier than the peach. The action of the plum root compelled the wood of the peach to ripen earlier than it otherwise would have done, and in that way indirectly it did make it somewhat hardier. The tendency of the plum is to cease growing very early in the season, and so it tends to stop the growing of the peach, and to compel the leaves to fall off before the frost is strong enough to injure the peach wood. With us the peach trees go on growing until November, but sometimes there will be six or eight inches of tender growth that has not ripened up at all. I have seen some of them completely killed by the autumn frosts, because the growth was not checked by the cold autumn nights of October, which are usually alternated with warm days. You will get a hardy race of peaches in this part of the country by the process of raising your own peach trees from seed. If you can get a peach tree to ripen its fruit here and plant its pits, they will become somewhat acclimated. Go on planting the pits from the trees thus produced for two or three generations, and you will get a hardier race of peach trees than you can obtain by any other means. I have tried that plan with other trees in St. Catharines; for instance, with some ornamental trees from China. The first I tried was the Chinese Arborvite. It died back every winter for a time, and came very near being killed; the tree became stunted and lost large quantities of its branches, but finally it made fruit and bore its seeds. I took those seeds and planted them. I was then but a lad in my teens. They came up. After these trees had grown to be a foot high in the seed bed, I took them out and planted them at different places in the garden. These trees were hardy. The mother tree has been dead for years, and I have a race of those trees that stand our winter perfectly, and they bear fruit every year or every other year. Since then I have experimented in the same way with other ornamental trees with success, and I believe if

you can only get a peach tree to ripen its fruit here, and plant its pits, and keep on doing that, you will get a peach tree that will succeed in your climate in bearing fruit.

MULCHING.

The next question taken up for discussion was, "The benefits of mulching in summer and winter and the most suitable material."

Mr. A. Hood, of Barrie, introduced the subject by reading the following paper :

IS MULCHING BENEFICIAL?

Mulches are applied in winter to assist in keeping out frost, and to prevent snow from being blown off: they are continued in spring to prevent the surface soil from alternately thawing and freezing, and by retaining the frost about the roots prevent too early a development of buds and blossoms: but their principal use is perhaps to prevent a too rapid evaporation in hot weather and during drought, and thereby preserve for the use of trees, plants and vegetables the moisture that is in the soil, and to retain for a longer period than is otherwise possible such as fall from the clouds: incidentally they may to a certain extent prevent the growth of weeds, and thus save labour in hoeing. There are, however, certain other resulting effects to be taken into account which may be prejudicial: in fact, like all debateable questions, there are two sides of the case to be considered. In the first place, if mulching prevents rapid evaporation, it also prevents anything but very heavy rain from reaching the surface of the soil: for the mulch receives and absorbs the principal part of the rain that falls, which is thereafter soon evaporated and returned to the atmosphere without ever touching the soil, and thus the roots of plants are deprived of fresh water, and also of the nitrogen and other elements that rain water always contains. This is a very serious objection, and another result arising from the same cause is, perhaps, equally serious, and that is that the soil and roots beneath a mulch are totally deprived of the moisture which would otherwise be deposited in the form of dew: a deposit which I am inclined to regard as almost equally as valuable as the rainfall, for by this agent plants are, during a drought, not only kept living, but in a flourishing condition, providing the soil around them is kept loose so that the air and the dew can penetrate.

The practice of mulching would indeed require to confer some very great benefits to overcome such serious objections as the deprivation of two such important sources of nourishment: cutting off the supply of the very elements it aims at preserving. What benefit would it be to an individual to have his landlord bank up his house and put double glass in the windows to keep him warm, if, at the same time, he stopped the supply from the pump and closed up the cistern?

Mulch, while preventing rapid evaporation, of course excludes the rays of the sun, and keeps the soil in which the roots are growing much cooler than it otherwise would be. This is, perhaps, beneficial to some kinds of vegetation, but it may be injurious to others.

It is natural for the roots of plants to penetrate a certain depth below the surface, which varies with the nature of the soil and the cultivation. The more loose and open the surface is kept the deeper will the roots be found, and *vice versa*. This is caused by the fact that in preparing food for the growth of the plants certain chemical processes take place to effect which the presence of atmospheric air is necessary. Roots, therefore, will not descend so deep as to be out of the reach of this necessary element. It may be inferred therefore that if the roots of a tree are established in the soil at the proper depth the addition of a heavy mulch will, by partly excluding the atmosphere, disturb the equilibrium heretofore existing, and thus in some measure injure the health of the tree. If the tree is young and the roots have not become established the tendency will be to draw them nearer the surface in search of air than they would be drawn if left to themselves, thus rendering them more liable to suffer in a drought and more likely to be injured by frost, should the mulch ever be removed: which makes it almost imperative, therefore, that when mulching is once commenced it must be continued.

If from three to six inches of fresh soil was applied instead of a straw or manure

muleh, and kept continually stirred or cultivated so that roots would not be allowed to establish themselves, would not all the benefits of a vegetable mulch be obtained without its disadvantages? And, if the original soil had been constantly cultivated instead of applying the three or six inches of fresh soil upon the surface, would not the same result have been secured? If so it would seem to demonstrate that cultivation is better than mulching.

If mulch could be applied immediately after the last rainfall that precedes drought; and be removed in time to allow the first succeeding rain to reach the soil, then possibly considerable benefit might be derived; but until our weather offices attain to much greater skill in predicting the future weather than they now possess it will not be possible for cultivators to avail themselves of any advantages that might in that way be secured.

In considering the advantages and disadvantages of the practice of mulching, we are considering the best means of providing against the effect of continued drought; and as that is the object we have in view it may not be out of place to refer to some theoretical ideas which, if they have any foundation in fact, would be interfered with by this same practice of mulching.

I have been in the habit of indulging what perhaps may be considered rather singular ideas on the subject of the supply of moisture to the roots of plants; and yet I feel considerable hesitation in introducing such theories on an occasion like the present, because they may be looked upon as nothing more than a hobby, and because it is not easy to see how they are to be utilized for our benefit even if they should prove to be correct. Still, I think you will admit that if we discover certain principles or modes of operation as applied by nature to promote the growth of vegetation, it would certainly be one step towards applying those principles ourselves for our own benefit, though we may not at present be able to see how it is to be done.

I am led to think then, Mr. Chairman, that plants have means of supplying themselves with moisture independent of what falls from the clouds. I think in fact that some plants, if not all, have the power to a limited extent of converting the elements to be met with in the soil and the atmosphere, or rather combining those elements in the right proportions, to act as their own circulating fluids; that in fact they have the power under certain conditions of making water to supply their own wants.

It is well known that water is composed of two gases, oxygen and hydrogen, that it can be decomposed by means of electricity and resolved into those two elements, and that those two elements may again be united and converted into water.

No element is more abundant than oxygen. The air we breathe and the water we drink contain it in large quantities, as also do all rocks and minerals—clay, sand, quartz, flint, chalk, limestone, marble—in short all the solid constituents of the earth's crust; and hydrogen forms a part of most metals and of everything combustible, and enters largely into the structures of every organized substance, either mineral or vegetable, as well as manufactured articles, such as starch, sugar, vinegar, alcohol, etc. Why, there are materials here sufficient under us, above us, and around us, to furnish water enough for a second deluge; and yet vegetation has been burnt up the past summer for want of it.

The difficulty of separating those two gases from their present combination and reuniting them so as to become water is very great, for hydrogen being the lightest of all gases no sooner becomes free than it ascends to the upper regions and is lost; therefore unless the combination with oxygen takes place at the moment it is disengaged there is no possibility of effecting it. It has occurred to me, however, though the idea may to some of you appear ridiculous, that this power of disengaging these gases and converting them into water is possessed to a limited extent by most plants, and by some of them in a much greater degree than others. I have been led to form this hypothesis by observing phenomena that I could not account for in any other way, and in reading of cases far more remarkable than any I have observed.

I have noticed that some of our plants and flowers possess a power of withstanding the withering effects of a protracted drought much better than others, and these are frequently of a succulent or juicy character. I will not weary you by multiplying instances, but will call your attention to a few that occur to me. I have noticed, then, a very delicate variety of larkspur that the drought of the past summer on the driest of soils

has not been able to kill. I have noticed the difference between cucumbers and tomatoes—both natives of warm climates. The one cannot exist without liberal supplies of water, and the other cannot be killed or much injured in the longest drought or on the poorest soils. I have noticed that when all crops and even weeds are suffering from want of moisture, one weed—the wild *portulaca*—thrives amazingly; and the cultivated variety, which Vick's Floral Guide calls "the beautiful little Salamander," will, when everything else is perishing for lack of moisture, give its largest flowers and brightest colours. The Cactus family are remarkable for their power of withstanding drought, growing as they do in a climate that is for a great part of the year almost destitute of water, and being found as they are on arid soils and bare rocks some of them are, notwithstanding all this, represented as containing a store of wholesome juice of which both men and cattle avail themselves. But perhaps the most remarkable of all is a plant not properly a Cactus, but in some respects similar, called the Agave or American Aloe; and another species, the Mexican variety, or Maguey plant, being the same as cultivated in our conservatories under the name of Century plant. The Mexican variety grows to an enormous size, and is cultivated in that country as a hedge plant. The fibres of the leaves are under the name of Maguey used for the manufacture of thread, twine, ropes, etc., but its principal value is for the juice, which yields sugar, and which, when diluted with water and subjected to four or five days' fermentation, becomes an agreeable but intoxicating drink called Pulque, which is the national beverage of the Mexicans. This liquor is obtained by cutting or scooping out a basin in the very heart of the plant, into which a juice called honey-water flows at the rate of from four to eight quarts a day, according to size of plant, and continues to flow, according to our account, for a period of three months whether the weather be wet or dry. Humboldt describes it as flowing for a year to a year and a half, but let which will be the correct account there is something not easily explained in the fact of a plant on arid soil, or on bare rocks in a dry climate, producing from four to eight quarts of juice per day.

If this be as stated, it appears to me that teetotallers may preach up temperance and the people may sign pledges if they choose, but when liquor can be extracted from every hedge plant in such liberal quantities I should suppose there would be considerable difficulty in carrying out effectually any law prohibiting the use, or the abuse, or the manufacture of liquor.

But wonderful as all this may appear, I am not sure but something quite as remarkable may be seen by any of us every season. It must be remembered that the Cactus and the Aloe or Century plant have no pores through which evaporation can take place; they therefore retain all the moisture which their roots collect, whereas our deciduous trees, such as the apple and the pear, are continually evaporating moisture from every leaf. What the amount of this evaporation might be per day from an ordinary sized apple tree I have no means of knowing, but it must be something considerable, to say nothing of the moisture which is supplied to the growing fruit. All this evaporated moisture must be collected by the roots, and it would not tax our intelligence very highly to imagine how it could be done; but imagine an apple tree growing under glass and bearing its load of fruit without one drop of rain ever reaching its roots from spring till fall, and it will then tax your intelligence very considerably to know how the roots procure the moisture necessary for growth and evaporation.

I say without one drop of rain from spring till fall, which, perhaps, some of you may be disposed to doubt; and if so, I would recommend the doubter to make an experiment or two for himself. Take a spade and dig through the sod that is growing under a tree two or three times during the summer, and if he finds at any time, yes, even after a heavy rain, that the sod is moist two inches below the surface, I shall be surprised. Having in this way assured myself of the impossibility of any ordinary rain penetrating through a sod, the wonder with me is not only how the roots manage to supply moisture for growing fruit and evaporation, but how the trees manage to keep themselves alive; and in seeking for an explanation of this mystery I have been led to imagine that some of them at least have the power before referred to, of manufacturing a supply for their own use.

But what has all this to do with mulching? some of you may be led to ask. Why,

simply this, that if there is anything in my theory, mulching has a tendency to interfere with and exclude some important agents in effecting those objects, such as atmospheric air and the rays of the sun.

We have had different plans proposed for supplying vegetation with moisture : one was to fly a kite with a wire rope and send up a current of electricity to bring down the rain ; but the difficulty was that one current might be coming down the wire while the operator was thinking of sending another up, which would, perhaps, have been attended with disagreeable consequences. Another proposes to send up a charge of dynamite and explode it among the clouds ; but both of these proposals had this difficulty, that if there were no clouds they could bring down no rain. Now, suppose we endeavour to reverse these methods, and instead of looking upwards for moisture let us turn our attention downwards and see what we can extract from Mother Earth. We cannot turn sand and clay into water, but we may assist vegetation in extracting it for themselves. Oxygen is everywhere in abundance. Can we not furnish the hydrogen ? Hydrogen is liberated by the action of sulphuric acid on iron or zinc, and it enters largely into the composition of all animal and vegetable matter. This matter when decomposed becomes manure, and I need not tell you that where this is applied freely crops suffer less from drought than where it is not present. May not the reason be that manure furnishes the hydrogen which enables plants to supply themselves with water ? And if that is not the reason, what is ? for no one, I apprehend, will dispute the fact. Presuming that manure furnishes all other requirements of plant life, if it did not assist in supplying moisture where other sources fail, a healthy growth could not be maintained. If so much is admitted, then comes the question, Can we not supply what is wanted in this particular case in a cheaper, more effective, or more available form than barnyard manure ? And that is a question I shall leave others to answer, for I can give no positive information myself.

As before stated, when some of these metals—iron and zinc particularly—are treated with acid, hydrogen is liberated in large quantities. This has led me to suppose that copperas or blue vitriol might supply what is wanted. Copperas is sulphate of iron, and blue vitriol is sulphate of copper, both being products of these metals when treated with sulphuric acid ; but whether in this form they would be of any use I cannot say. This much there is, however, in their favour, that copperas has already been reported as a remedy for blight in pear trees, and as we know that those trees are not subject to that disease in a moist climate it would seem to indicate that in some way it counteracts the injurious effects of a climate that is often too dry. In mulching I have little faith, and have had but little experience on which to base an opinion, but what little I have had has been unfortunate. I mulched some of my Black Caps the past summer before the fruit began to ripen, and several of the roots died outright, and others all died but the present year's growth, and as this is the first year that I have lost any in that way you will not be surprised at my want of faith, nor that I should look in some other direction for a remedy.

The President requested Mr. H. B. Spotton, of the Barrie Collegiate Institute, to give his views of the theory advanced in Mr. Hood's paper.

Mr. SPOTTON.—I would have preferred first to have heard the paper discussed by the practical men of the Association. I may say that the theory advanced by Mr. Hood is a perfectly novel one to me, as I suppose it is to the members present—that is, that plants make water out of the materials of the soil for their own purposes. I am not disposed to give my adhesion to that theory at present. Everyone who knows anything of the structure of plants knows that on the under side of the leaves there are openings into the intercellular spaces, and these have the power of expanding, so that on a dry day the evaporation would be very different in amount from what it would be on a moist day, when the air is saturated with moisture. I do not think the requisite conditions are present in plants for combining oxygen and hydrogen so as to form water in the body of the plant. The supply of nourishment comes to plants in the form of liquid, I believe. Until lately, it was supposed that these openings in the leaves were merely for evaporation, and not for absorption ; but the latest researches of botanists go to show that there is a quantity of oxygen taken into the plants by those passages. It is a very common statement in *Gray's Botany*—perhaps not in late editions—that plants purify the air for

animals—that they inhale carbonic acid gas and exhale oxygen through these stomata in the leaves; but the latest investigations show that a certain amount of oxygen is absorbed through them. With regard to fleshy plants, of course we all know that tropical countries are their homes. The nature of a plant is to adapt itself to the circumstances in which it finds itself. Evaporation through the stomata is absent in these tropical plants, and Mr. Hood's difficulty seems to be as to where they obtain their supply of moisture. In order to account for that he assumes that they manufacture the water within themselves. I do not believe that. I believe they get their supply of moisture from the air. We know that the dew in tropical countries is exceedingly heavy.

A MEMBER.—If they are destitute of pores or stomata, how do they get their moisture?

MR. SPOTTON.—I believe they get it through the roots, and they gradually lay up a large supply. If a small supply is taken in by these plants continuously, and practically none given out, I think that circumstance is sufficient to account for the large quantities of moisture which tropical plants contain. Then, Mr. Hood seems to be troubled by the consideration that if a heavy rain falls, and you dig a few inches beneath the soil, you will find the soil perfectly dry. But I think it is within the experience of all of us—of course I am not speaking as a practical horticulturist, because I know very little indeed of practical horticulture—that if a board is laid on the ground, the effect of it is to retain moisture. If you place a board on the surface of the soil, and after twenty-four hours, you remove it in the morning, you will find the soil at that spot covered with moisture while it is dry all round. The reason of that, I take it, is that the board has prevented evaporation from the soil. What is to prevent the soil acting as a sort of sponge and carrying moisture up from below? I do not believe that all the moisture the soil contains is from the air; my impression is that some comes from below; but so far as my reading and experience and knowledge of plants go I would not be disposed to give my adhesion to Mr. Hood's theory. In order to cause hydrogen and oxygen to combine to form water, a very high degree of heat is required. They can be combined by electricity, but that means a very high degree of temperature.

MR. BEADLE.—A degree of temperature so high as to destroy any species of plant we are acquainted with, I suppose.

MR. SPOTTON.*—I should think so.

THE PRESIDENT.—I think there is a great deal in what Mr. Spotton has suggested as to the earth below supplying the water. That is the theory advanced to account for the fertility of the soil in the North-West Territories, that the moisture in the soil, which is there in a frozen state, by thawing out during the summer season keeps up a supply of moisture, and in that way stimulates the growth of plants. I do not suppose that in any place we could find soil dry enough under the soil not to yield a considerable quantity of water if put in a still. It appears difficult to accept Mr. Hood's theory, as it requires such a very large quantity of the necessary gases to form a small quantity of water, and the heat required to produce the change would destroy the tissues of the plant. It does not seem a reasonable theory to my mind, though it is a very ingenious one, to account for the difficulty which Mr. Hood has felt. I do not see any difficulty in the way of roots drawing moisture from the soil from below, or of their absorbing it from the atmosphere when it is saturated with moisture at night. I think I have seen it stated that an ordinary forest tree will give out several hundred pounds of water during twenty-four hours, showing the enormous quantity of moisture required to keep up the supply of a single tree.

MR. BEADLE.—I would like to say a little on Mr. Hood's paper, which is an excellent one in its practical bearing upon the work of the horticulturist. This question of mulching is beset with more difficulties than I think we have been in the habit of giving it credit for. We put on a heavy mulch, and after leaving it for a while we go and rake it away again, which is a very injurious process. If we put on a mulch, as Mr. Hood has said, we must leave it there; and as it disintegrates and gets carried away by the rains, we must keep up the supply in the case of those trees or plants whose roots are largely surface roots—small fibrous roots that feed near the surface. Grape vines, for instance, will illustrate what I mean. I have seen gentlemen ruin their crops of grapes by putting on

a beautiful mulch in the fall, leaving it on all winter and spring until the fruit has set, and then removing it. When the weather begins to get warm they run the cultivator along and tear up this mulch; and after the next heavy rain the soil becomes baked, and the result is that the roots which come to the surface are roasted by the sun or actually dried out by the baking clay soil, and have not moisture enough to sustain life. I have seen grapes wither upon the vine, while the fruit grower wondered what was the matter with his grapes, not knowing that it was his own fault in having changed the condition of the plant. Mr. Hood's idea is quite correct. If you mulch, keep up your mulch the year round, and let the roots grow into that rotting, decaying vegetable matter and feed upon it. If you go into a forest and stir up the leaves on the ground, you will find the roots of the trees and shrubs lying in a network under these leaves, and there is nothing that will destroy a growth of trees like raking these leaves away. On the other hand, if you do not care to mulch, if it is not convenient to do so, by keeping the surface of the soil stirred up as Mr. Hood suggested, keeping it mellow all the time; you will have conditions very much like mulching, and in that you will have an excellent substitute for mulch, and I am inclined, take it all in all, to prefer it to mulching. By keeping the surface of the soil well stirred, you will induce the moisture to rise from below, you will enable the dew and the rains to penetrate to the roots, giving them that nutriment from the ground and the atmosphere which they require. If you keep the ground mellow in that way it will not bake. So that I believe, on the whole, agriculturists, those who are cultivating on a large scale particularly, will find it to their advantage to keep the ground well stirred on the surface instead of using a mulch—in view also of the expense of putting a mulch on and keeping it there being greater than the expense of keeping the soil stirred. But there is another point. Some of us live in places where the climate is very severe, where the snow that falls in the early part of the winter is likely to be blown off and the ground is likely to be frozen to a great depth, and where very tender plants such as grape vines and some fruit-bearing shrubs are frequently injured by the freezing of the roots. We had an illustration of that in our county, Lincoln, a year ago last winter. I saw hundreds of grape vines that had borne grapes for several years killed out entirely by the death of the root in the winter. Branches cut from these vines in the spring looked as fresh and green as they ever did, and these same branches planted as cuttings made a fine healthy growth, while the plants they were cut from died. That is a case I believe in which a good thick mulch would be a most valuable thing; the mere stirring of the surface of the soil would not prevent the death of the plant from the freezing of the root. I take it, therefore, that we have to use our common sense and judgment in this matter—to judge whether the means we are using are adapted to the end in view, and then act—to mulch when our reason shows us that it would be a reasonable thing, having considered what the nature and conditions of the plant are, and the object we seek to accomplish or the injury we strive to prevent.

Mr. DEMPSEY. I have practised largely, particularly in market gardening, the theory of mulching which Mr. Beadle has been advocating. In dry weather we have found it just as useful to hoe the plants twice a day, in the morning and the evening, as to apply water as most people do. I have always thought that by opening the soil and admitting the atmosphere we enable the soil to absorb a certain amount of water from the atmosphere; and to prove my theory correct I have taken a bushel of perfectly dry earth and laid it on the surface of a stone and shovelled it and turned it over very often, and I have found that in a very short time that earth became moist. I have never found anything in the shape of mulching that gave such satisfaction as simply cultivating the soil to as great a depth as possible without interfering with the surface roots. Two years ago we mulched half of our black raspberries, and the portion that we mulched at that time succeeded very well; but the next year we found that a great many plants in that portion of the patch failed, and to-day the plants that we did not mulch are doing the best. I have found also, in mulching trees, that after two or three years those mulched have shown the effects of the mulching by the plants perishing. I could only account for that by supposing that the mulch had encouraged the fibrous roots to come near the surface, and that not having sufficient protection when winter came, they perished. But I leave that to be decided by those who understand these matters better than I do; I simply

give you the result of my experience. Most assuredly we do every year mulch with leaves some of our most tender varieties of grapes, and we find it very beneficial to do so; but we remove the mulch in the spring. Then, some of our most tender roses, such as some tea roses which we grow in the open ground, we invariably mulch in winter; but the mulch is always removed in the spring. In the case of tender plants, the mulching around the roots seems to have a tendency to prevent the frost penetrating to the roots, and to enable the plants to withstand a very much lower temperature than they would be able to do without the mulch.

Mr. GOLDIE.—What material do you use for winter mulching?

Mr. DEMPSEY.—Leaves principally.

Mr. HUGH SMITH (of Sarnia).—I have been very much interested in the paper which has been read. As to the scientific theory advanced, I do not pretend to know anything about it, but there are some plants, such as parasitic plants that live without root or water. I cut off the roots of some convolvuluses, and they continued to grow, although the size of the leaf gradually diminished. I cut them three or four inches above the soil. It was a rather succulent plant, though not particularly fleshy, like the tropical plants. That would seem to support Mr. Hood's theory that plants have some mysterious means of drawing moisture.

Mr. SPOTTON.—The case mentioned is not unusual, as you are of course aware that there are plants which do not reach the ground at all. For instance, there are a vast number of orchids which you may hang up or place on a shelf, and they will flourish wonderfully. The explanation of that is of course that they take in moisture from the air. It should not be forgotten that air has always moisture, and that the warmer it is the more moisture it contains, so that to gather moisture it is not necessary that plants should touch the earth. The great fact is that the absorption of moisture goes on. If the plant has roots, it passes through the roots; if not roots, then probably through the stem or the leaves.

Mr. ROY.—I have an oleander about five feet high in a pot. In the spring I set it out in the ground, three or four inches below the surface, and in the fall, when I went to take up the plant again, I found that the whole bed of earth above the top of the pot was filled with fibrous roots. When I took the plant into the house, these roots of course dried up and withered, and in the following year I found that the plant was much injured by what had taken place.

THE BEST APPLES FOR THE COUNTY OF SIMCOE.

The next subject was "The varieties of apples best adapted to the climate and soil of the County of Simcoe."

Mr. THOMAS McLEOD (of Dalston).—My experience of apple-growing is rather limited. I have quite a number of apple-trees planted, but the most successful of all is certainly the Duchess of Oldenburg; but the Talman Sweet, the Alexander and the American Golden Russet also do very well. We have a great many other varieties planted, but to these I would give the prominence.

The PRESIDENT.—Do the other varieties show tenderness?

Mr. McLEOD.—No, but they do not bear. We have had them planted for eight or ten years, and they have never borne anything worth speaking of. The Tetofsky has done very well, but the Duchess is ahead of anything else. The Red Astrachan has succeeded only fairly well.

Mr. J. CUPPAGE (of Orillia).—In my part of the country the farmers generally have from half an acre to an acre under orchard. They grow the Duchess, the Red Astrachan, the St. Lawrence, and a few other varieties, as well as some very reliable local varieties. I would here offer a suggestion, which seems to come within the scope of this Association. In many places there are some seedling apples of excellent quality and worthy of perpetuation, and I think steps ought to be taken to insure their continuance. In that way many varieties might be found thoroughly suited to the climate, and perhaps better than the Russian apples which are now coming so much into vogue.

The PRESIDENT.—I might say that it has been one of the aims of this Association to collect information with regard to seedling fruit. During the last ten years the Association has collected and published all the information it could obtain of the seedlings that were brought under the notice of the Directors; and if you know of any seedling apples of merit, and would be kind enough to have some samples sent to one of the Directors, there is a committee appointed every year to report upon any seedlings that are brought to our notice in that way. There are no doubt in many parts of the country valuable seedlings of various fruits. I have been told that there are plums growing beyond Parry Sound that are worth perpetuating.

Mr. JOHN NESS (of Timiskamining).—Almost every variety of apple planted in my orchard seems to succeed. You will find about forty varieties of my fruit on exhibition in the hall, including the Baldwin, the Northern Spy, the Cayuga, Redstreak, the Rhode Island Greening, the Tetofsky, the Pewaukee, and the Wallbridge. I brought a limb of the Baldwin which had fifty apples on it, although some people think it is a variety that will not grow in this part of the country. The Rhode Island Greening some of my neighbours cannot grow, but it succeeds very well with me. In fact almost everything I plant seems to succeed. My soil is inclined to be a clay loam. The Ribston Pippin does very well with me.

Mr. DEMPSEY.—Do you have much snow?

Mr. NESS.—Oh yes; sometimes ten feet high.

Mr. DEMPSEY.—If you were going to plant half-a-dozen varieties which would you plant?

Mr. NESS.—I would be something like the man who said that if he was going to plant an orchard of a thousand trees he would plant nine hundred and ninety-nine Baldwins, and he did not know but he would plant all Baldwins. I have been told that the Colvert is being shipped to the English market, and that it is taking well.

Mr. DEMPSEY.—It is an excellent apple for shipping, but it needs to be picked on the green side.

Mr. GOLDIE.—Don't you like the Northern Spy?

Mr. NESS.—I do, but it takes too long a time to blossom. I have one that did not bear until it was sixteen years old. My land lies to the south-east, and it is naturally drained. I have put two artificial drains through it, but it does not need them. My land is a red loam, inclined to clay and pretty stony.

Mr. GEORGE E. SNEATH (of Midhurst).—I have not found that all varieties of apples are equally hardy here. I think in all probability that Mr. Ness's exceptional success is accounted for by his position with reference to the lake. His fruit farm is not very far distant from Kempenfeldt bay, which I think has probably an influence on his crops of fruit and on the life of his trees. I have found the Ribston Pippin rather tender and a shy bearer; and besides, by the time it is old enough to bear anything of a crop, it becomes so afflicted with black heart and other diseases that it is about ready to be cut down. I have not found either the Rhode Island Greening or the Baldwin hardy enough for this climate. I have two Baldwins in my orchard which fruit very well, but it is the exception rather than the rule in this county. Both it and the Rhode Island Greening generally kill back in the winter what they have gained in the summer. The Duchess of Oldenburg and the Red Astrachan grow well and fruit well. The Colvert also does very well and it is easily disposed of, as it is a fruit that takes well in the market and it is of very good quality too. I have had very good crops of the Colvert during the past two years. The American Golden Russet seems very well suited to this climate. The Northern Spy is a good bearer, but is rather too long coming into bearing for anyone who grows only a few varieties. The Seek-no-Further bears very well and seems to stand the climate. The Talma Sweet stands the climate and takes the market when other varieties are scarce; but I would not recommend any person setting out an orchard in this district to plant a very large quantity of either the Baldwin or the Rhode Island Greening.

Mr. DEMPSEY.—If you were making a collection of half-a-dozen varieties, which would you plant?

Mr. SNEATH.—It is very hard to choose between the Duchess of Oldenburg and the

Red Astrachan for an early apple, because the Duchess is a very hard apple to market, as it is easily discoloured; but either of these varieties I would recommend. For a fall apple I would take the Colvert and for winter varieties, the American Golden Russet, the Northern Spy and the Talman Sweet. The Northern Spy bears heavily one year and has no apples the next year.

Mr. GOLDIE.—Have you tried pinching to bring it into bearing?

Mr. SNEATH.—No, I have not.

Mr. GOLDIE.—I have seen it brought into bearing as quickly as others in that way.

Mr. SNEATH.—Bad pruning has caused a great deal of harm in this district. Some pruners go around the country and prune the trees in a way to let the moisture get into them and destroy them.

Mr. DEMPSEY.—What is your soil?

Mr. SNEATH.—Sandy loam with a clay bottom. It is high land, naturally well drained, so that it does not require any artificial draining at all.

Mr. ROY.—How about the Snow Apple?

Mr. SNEATH.—It grows very well in every part of the country, and I would recommend it.

Mr. ROY.—Have you any seedlings?

Mr. SNEATH.—I have two or three, but I could not recommend them.

Mr. GOLDIE.—I have observed that where there is a gravelly subsoil, with not very heavy covering, the trees suffer more from the winter cold than in other soils.

Mr. SNEATH.—Our trees do not suffer from winter cold because we have such a heavy fall of snow. We find, however, that in the case of small fruits rather than apples it is a good thing to mulch, because the mulching keeps the plants back in the spring and prevents them from starting until the late frost is over. Then we take off the mulch.

Mr. SEWREY, Mayor of Barrie.—I may give the association my experience with regard to the apple crop during my residence in Simcoe. I have noticed that trees will thrive for half a dozen years, when the bark will begin to burst open and the trees will die, although surrounding orchards appear to be healthy. I could not account for that for a long time, but at last it struck me that in this country the frost very seldom penetrates the soil. In the month of March, at mid-day, the heat is almost like summer heat and the snow melts, while in the evening the temperature almost reaches zero. My idea therefore was, that during those warm hours of the day the sap started from the root to the branch, and before it returned in the evening the frost caught it, and as the summer approached, owing to a repetition of this process, the bark gradually withered away and the tree died. That was my explanation of the disaster to the fruits. My brother, who has a very nice little garden of fruits in this town, has been greatly troubled in that way, and I suggested to him in the winter, before the warm days approached, to take a shovel and remove the snow from around the tree, so that the frost could penetrate the earth and prevent the sap from starting. In the Niagara district the frost penetrates very deeply into the ground and the sap does not start prematurely in the tree; but here the earth is as warm in winter as in summer—so warm that if you remove the snow you will find the grass growing beneath. Perhaps my theory is correct, and perhaps not; but the difficulty is one that has discouraged fruit-growers in this part of the country a great deal.

Mr. BEADLE.—Have you tried the experiment of shovelling the snow from the surface of the ground?

Mr. SEWREY.—I suggested it to my brother, but I have not questioned him as to whether he did so or not. I have noticed, however, that during the last year or two the trees in his orchard seem to have been thriving and producing excellent fruit.

Mr. GOLDIE.—Does that difficulty exist in the open orchards?

Mr. SEWREY.—Yes, I have noticed it in travelling throughout the country that the bark on the stock of the trees dies. I do not know whether the cause I suggested is the true one or not.

Mr. GEORGE SNEATH.—I have grown trees for thirty seven years, and I have never lost one in the way the Mayor speaks of.

Mr. SEWREY.—I have observed it in Mono, Vespra and Barrie. I only put this theory

forth as my theory to account for the trouble. There may be other reasons, such as too rapid growth.

Mr. SPURTON.—I know a gentleman who has lost some trees in the same way. I do not think he had any theory as to the cause, but his remedy was to split the bark.

Mr. HUGHES. Perhaps some of my experience may be of use on this subject. About six weeks ago I was travelling in the Parry Sound District and came across a man who wanted to know why he could not get his apple trees to grow. He said they had all burst in the bark, just in the way that Mr. Sewrey has described. I saw his orchard, and found that it was on a southern slope, facing the sun. I advised him during the course of the winter to tramp the snow solid around his trees, and in the beginning of the month of March to nail two boards together in the shape of a letter V, and long enough to come up to the branches, and with that structure to shade the trunks of the trees from the sun during March and April. The gentleman did so, and to-day he has thrifty trees growing in the same places where the others died. I told him further that when planting more trees he should go to the north side of his hill and plant his orchard there. This hill is located on the south side of a lake about four miles wide, and on the north side it runs down to a dense swamp, and I suppose the wind strikes that orchard from the north-west with a sweep of twenty miles; yet there are growing there about fifty of as thrifty young trees as one can wish to see. I always advise my friends if they cannot get the north side of a hill to plant their trees upon, to just shade them from the sun in March and April in the way I have described. My observation has gone to prove this plan perfectly successful.

Mr. CHARLES HICKLING (of Barrie).—The mode I adopted some years ago to preserve my orchard was to tramp the snow around the trees, and then to throw some manure on the top of the snow so as to prevent it going off early in the spring. In that way I prevented my trees from budding for a week or a fortnight, which aided me a great deal in saving my crop. With regard to the best varieties of fruit for this district, the Northern Spy has done fairly well with me, although some trees have been rather shy bearers, and some of them have been as long as fifteen and twenty years in coming into bearing. Nevertheless, the Northern Spy is such a valuable fruit and bears so well when it once begins that I do not think we should turn our back upon it. I find the Baldwin to be not only hardy but a much better cropper than the Spy. All the Baldwins I have are top grafted, but they are producing a very heavy crop of excellent fruit. The Rhode Island Greening has not succeeded quite so well. Some of the trees have been injured by the borer, but others have borne a good quantity of fruit, and the apple is so valuable for market and for shipping that I should not after all discard the Greening. The Golden Russet is a very hardy tree and a very prolific bearer. The Wagener seems to do fairly well, but it is a rather shy bearer. The Duchess of Oldenburg, although not the earliest apple we have, is I think the fastest growing, and it can be brought into market and sold green earlier than any other. But it certainly is the most prolific bearer of any of our early apples; I think the largest crop of fruit I have produced consisted of Duchess apples. I am sorry to say that the Snow apple has not been very successful with me on account of the spotting, although for a few years I did raise some very heavy crops of snow apples of very good quality.

Mr. ROY.—Have you any spotting this year?

Mr. HICKLING.—Not this year, but I had last year. The apples are comparatively free from spots this year. The Gravenstein is a very fine apple. The Seek-no-Further is also a hardy apple and a very good bearer; it bears every other year a very heavy crop, and the apples are fine keepers and good for market. The Porter is a very good early fall apple. The St. Lawrence has done very well in this part of the country. The Yellow Bellflower has also done well; I have it top-grafted. The Talman Sweet I have found quite hardy.

Mr. McLEOD.—Mr. Hickling speaks of the Baldwin, the Rhode Island Greening and the Gravenstein as succeeding with him. I would like to know if that is the experience of other gentlemen. It is not mine.

Mr. NESS.—I have several trees of the Rhode Island Greening growing quite successfully.

Mr. HOOD. In the county of Simcoe we have very little difficulty in getting apples in summer and fall; but we have more difficulty in obtaining hardy winter apples. With the Early Harvest, the Red Astrachan, and the Duchess of Oldenburg we have no difficulty. If you should go to our show that is to be held in this town about a week hence you would almost think we had as good an exhibition of apples as you could find anywhere else as far as quality is concerned, although I admit that we may be excelled in quantity and variety. If the subject of discussion had been, what apples are not suitable for the County of Simcoe, I could have said more than I can on the question of what apples are suitable. I do not think Roxbury Russet or the Baldwin is suitable. The Baldwin may be considered passable, but the Roxbury Russet and the Greening are altogether too tender, or my soil does not suit them. Mr. Ness says the Baldwin does well with him. It may suit one man's soil, another man's indifferently, and another's not at all. What we want is a good iron-clad tree that will grow on almost any soil.

Mr. BEADLE.—Have you tried the Wealthy?

Mr. HOOD.—We have tried that, and it has done the best, but is not properly speaking a winter apple. Then there are the Walbridge and the Mann; of these I do not know a great deal, but I should like to learn more. The Ben Davis is a good winter apple. Now, one word about the Russet; it is said to be a good keeper, but what is it worth when it is kept? The fact is you cannot sell the Russet except when there is nothing else to be had.

Mr. CASTON (of Vespra).—I am only an amateur, and my experience of varieties likely to succeed here not very extensive, for my trees are just coming into bearing; but I have taken a good deal of notice of other people's orchards, and if asked what variety I would place at the head of the list, a hardy and profitable apple, I would say the American Golden Russet. I have never seen any difficulty in selling it at three dollars a barrel. We have another apple called the Red Pound. It is a large red apple, well flavoured for dessert or for cooking, a good bearer and an excellent keeper, and it sticks well to the tree. I would place next on the list the Ben Davis. It will keep until June, as long as the Russet, and the apple that will keep sound and rosy for that length of time is the apple that will sell. If I had an orchard of seedlings, I think I would top-graft them with the Ben Davis.

The PRESIDENT.—Have you ever eaten them?

Mr. CASTON.—They taste very well in the spring.

Mr. BEADLE.—They bring the highest price in April of any apples sent to Chicago.

Mr. CASTON.—The Tahman Sweet is another very satisfactory apple, and if you get too many trees of this variety you can graft any other kind on them. The Northern Spy I do not think much of. It is a fine apple; but if you grow a tree for sixteen years, and it then happens to die, you will not make much out of it. The experience of most fruit growers that I am acquainted with is that the Spy is so long in coming into bearing that as soon as it begins to bear it begins to die.

Mr. HICKLING.—That is not my experience.

Mr. CASTON.—Well, I have noticed that; and the leaves begin to turn yellow. The Yankee tree peddlers used to sell the Rhode Island Greening and the King of Tompkins County in this district; but they have not amounted to much. I only know of two King of Tompkins trees that amount to anything. I do not think this variety will succeed unless grafted on a hardy stock. The Alexander and the St. Lawrence are good hardy fall apples. I saw two trees of the Alexander the other day that would gladden the eyes of anybody. There is no doubt that both of these varieties will succeed here. I do not know whether you would call the Duchess an early fall or a late harvest apple. I think it is the first apple that is fit to use, and the best apple that has yet been introduced into this country. If we could get an apple that would last until spring, possessing the qualities of the Duchess, it would be the finest apple that we ever saw. It bears enormous crops, but I find fault with it that it does not grow enough wood. The apples themselves, however, all grow to a uniform size, and you never see a spot on them. The Snow has been a serviceable apple, although it becomes badly spotted; but this year it is spotted only very slightly. The Red Astrachan is a nice dessert apple and a good cooker, but it cannot begin to compare with the Duchess either for bearing or anything else. The Duchess

brought a dollar a bushel in this town this summer, which is a very fair price. As for the Baldwin, I am not acquainted with it; I have not grown it myself, and I do not think it is largely grown in this county, especially in the northern part where I live. There was a Yankee here last spring grafting the Baldwin on some seedlings, and I suppose we shall know shortly how it is succeeding. Something was said about pruning. I think a man who grows fruit ought to know enough to do his own pruning, and never let another person put a knife or saw into his orchard. Prune every year, and let there be no big limbs to cut out. Out of about three hundred trees I have never lost one by the bursting of the bark, and so far as my experience goes I believe this occurs where the trees are forced too much. I have heard others give the same explanation as that given by Mr. Sewrey; I do not know whether that is the real cause or not. I think there is a good deal in the theory that the tree is forced so much that it does not get sufficiently strong in the fall to stand the winter.

MR. GEORGE SNEATH. We have successfully grown the Maiden's Blush; it has yielded heavily every year, and is a good marketable apple. We have also grown the Gloria Mundi, which thrives well. I have not grown the Baldwin.

MR. A. M. SMITH.—I have noticed an apple on exhibition here marked "Maiden's Blush," which is a different apple from that which I have known under that name. I noticed another marked "Wagener" incorrectly; and I think it is possible that some apples are wrongly named in this district.

THE PRESIDENT.—I noticed a pear marked "Vicar of Winkfield" which is not the same as the Vicar of Winkfield we know farther south.

MR. HICKLING.—I got that pear from Mr. Beadle as the Vicar of Winkfield.

MR. BEADLE.—I will look into the matter and see. It would not be at all surprising if it turned out to be something else. Accidents of that kind often happen.

THE PRESIDENT.—I know, from Mr. Beadle's opinion of the Vicar of Winkfield, that he would not be inclined to regret if it should turn out to be something else. His opinion is that its flavor is something like that of the turnip.

THE BEST PEARS FOR THE COUNTY OF SIMCOE.

The next subject for discussion was, "What varieties of pears can be successfully grown in the county of Simcoe? On what soils should they be planted? What cultivation should they receive? What fertilizers should be employed?"

MR. CASTON.—I have some pear trees growing, but they have never borne yet, as they are young. My opinion is that pears will succeed best on clay soil, and I would prefer to grow them as dwarfs or half standards. For manure, I do not know that there could be anything better than hardwood ashes. With proper cultivation I do not know why the pear should not succeed here. There are two varieties which I think would do very well, Clapp's Favorite and the Duchess D'Angouleme.

THE PRESIDENT.—I have seen some fine Flemish Beauties in the shop windows here, which I presume were grown in the county.

MR. NESS.—I have Flemish Beauties. I have also the Doyenne D'Ete. I fruited the Bartlett last year, and it bore well; but this year there are none. The Flemish Beauty bears first-class, as do also Clapp's Favorite.

THE PRESIDENT.—What fertilizers do you use?

MR. NESS.—None at all. It takes me all my time gathering the fruit.

MR. GEORGE SNEATH.—I have grown Clapp's Favorite, but it died with the fire-blight. The Flemish Beauty suffered from the same cause, but the trees that are left have done very well. The Seckel has not been injured at all.

MR. McLEOD.—I have some pear trees that have been planted for seven years, but they have not grown any pears yet. The apple trees are all bearing, but we have never yet had a pear.

MR. HICKLING.—I think the Flemish Beauty takes the lead in this part of the country, and it is the pear best adapted to our soil and climate.

MR. NESS.—The Belle pear does as well.

Mr. HOOD.—I have never had any confidence in planting pears. I have always fought shy of them.

Mr. GEORGE SNEATH.—The Josephine de Malines is a very fine pear; it cannot be excelled.

Mr. GEORGE E. SNEATH.—I planted quite a number of trees of the Flemish Beauty variety a few years ago, but unfortunately in late years the fire blight has attacked them, and there are very few left. I believe that pears in this part of the country do not require any heavier pruning than pinching. I have planted Clapp's Favorite and the Bartlett, both of which do very well. We use barnyard manure for stimulating the trees.

Mr. ROY.—Nearly all of my pear trees this year are blighted, except the Flemish Beauty.

HEDGES IN THE COUNTY OF SIMCOE.

"The best plants for hedges in the County of Simcoe, and their management," was next discussed.

Mr. MORGAN.—I have never tried anything but the barberry, which will grow anywhere, under any circumstances, and in all times and manners. You cannot kill it; the mice do not seem to hurt it; and its fruit is particularly nice when stewed with other fruit. I believe it to be almost ironclad. I have not tried any other.

Mr. GOLDIE.—Has any one tried the buckthorn?

Judge BOYS, of Barrie.—I have tried the buckthorn, and with success. The cedar is also used, but the objection to it for a hedge is that some portions of it die, leaving unsightly gaps. Another hedge is made with the privet, but from my experience I would certainly recommend the thorn hedge in preference to all others.

The PRESIDENT.—How did you get your native thorn plants?

Judge BOYS.—I got a gardener to put them in, who got them directly from the woods.

Mr. CUPPAGE.—I have tried the buckthorn, but it is not as hardy as the native thorn.

Mr. BUCKE.—The buckthorn is hardy enough in our district, and makes a pretty, ornamental hedge, but it is not strong enough to resist cattle.

The PRESIDENT.—It can be made so by pruning, and every little branch has a thorn on the tip.

Mr. GOLDIE.—My father made a hedge from the buckthorn, and he kept it trimmed four feet from the ground; and so strong was that hedge that I believe a wild Texas steer would hardly make his way through it. The buckthorn makes a beautiful hedge and is perfectly hardy.

Judge BOYS.—I think the secret of success with regard to all these hedges is pruning. Any of them will do well if properly attended to.

Mr. GOLDIE.—Another excellent hedge might be made from the native crab apple. It is perfectly hardy, and although I have never seen it in a hedge, I think it would make a beautiful one.

Mr. BEALL.—I was glad to hear Mr. Goldie commend the buckthorn, only I would not let it grow as high as he does. I think it should be checked by cutting it from one to two feet from the ground. I have found mine down perfectly flat. Of course that does not kill the top of the shrub; that goes on, and the plant itself throws out an innumerable number of shoots beneath the cutting. There is nothing to equal it for a hedge.

Mr. ROY.—I have tried the cedar, the spruce and the hemlock, but I have succeeded with none except the privet.

At five o'clock the Association adjourned until 7.30 in the evening.

The rest of the afternoon was occupied by a visit of the gentlemen present to the strawberry farm of Messrs. Morgan & McVittie, just lying at the outskirts of the town.

The meeting in the evening was held in the Town Hall, and was attended by a considerable number of the citizens of Barrie, as well as by the members of the Association itself.

QUESTION DRAWER.

THE BEST TREES FOR THE COUNTY OF SIMCOE.

QUESTION.—From what part of Ontario should trees be purchased in order to succeed in Simcoe?

The PRESIDENT.—I suppose the writer of the question means, Where should the trees be grown?

Mr. CROHL.—I should say further north from here. We consider that a tree which has succeeded in Renfrew should succeed in our district.

Mr. HICKLING.—I think perhaps the county of Simcoe might compete in that matter. Of course the farther north you go the more likely shall we be to get trees that will succeed here; but what I have grown here I think might be transplanted a hundred miles north of this and succeed well. The farther north you can get the trees the better.

Mr. McLEOD.—I asked this question in order to learn what would be the best place to buy trees from. I bought trees from Toronto which were supposed to have been grown in South Simcoe, and none of them grew at all; on the other hand, I got some from Rochester and some from the neighbourhood of St. Catharines which have done very well; and my reason for asking this question was to learn from the experience of other people, where they got their trees, and which succeeded best, so that I might be guided in my future purchases. So far as my experience goes, I have found the trees from the neighbourhood of St. Catharines a long way ahead of any we got anywhere else.

MUSHROOMS.

QUESTION.—How can mushrooms be grown successfully?

Mr. HARRIS (of Barrie).—All old countrymen know something about mushrooms, because in the old country they are grown much more generally than here; and I see by the papers that Ireland this year has exported a great many tons of mushrooms into the London market and that they are yielding a large revenue. In this country mushrooms do not generally grow on meadow land. When I came to Barrie in the year 1881 I got a place on a hill—a very dry spot—and began to grow mushrooms. The first year I had none at all. The second year I had some; but as the garden needed manure I got an old mare, and the manure that resulted was spread over the ground. Last winter I kept the manure in a shed and took care not to let it heat very much, and in the spring I tried it in a bed by itself, and the consequence is that I have gathered a quantity of mushrooms that will bring me from ten to fifteen dollars in the Toronto market, and among them were some of the finest mushrooms I have ever seen. One morning the bed seemed to be covered with them.

The PRESIDENT.—Did you try mushroom spawn?

Mr. HARRIS.—No; I did once, but did not get any mushrooms. I do not think I ever found a way of growing them successfully until this year.

Mr. HUGH SMITH.—I do not know anything about mushrooms, but I would say that the common Puff-ball of the pastures is an excellent thing to be used like the mushroom, if gathered while young and fried with bread and butter.

APPLES FOR SHIPMENT TO EUROPE.

QUESTION.—What is the most profitable apple for shipment to Europe?

Mr. DEMPSEY.—It depends materially upon your market. For an Edinburgh market you want a large apple; Bailey's Sweet does very well, but for the London market you want a medium sized apple. Almost invariably the Golden Russet does well; I have never received an order which it would not be qualified to fill. The Northern Spy is a very profitable apple for that trade; and my brother makes a success of shipping the Colvert. The Ribston Pippin is also a good apple for shipping, and it produces large crops. Pick the apples when about two-thirds grown, before they color at all, and they will com-

mand enormous prices in the English market, from 25 to 30 shillings a barrel; but if you cannot pick them before they color, do not ship them, as they fail on the road. If we could grow Cox's Orange Pippin I think it would sell well, but it is so slow a grower that it would not pay any man to grow it unless he grows it for his great grandchildren. The Ben Davis is a good apple to ship anywhere, though it is not fit to eat; but when we are shipping apples we are not eating them.

Mr. ROY. I always understood the Newton Pippin to take the highest prices in England of any apple that is shipped.

THE MOST PROFITABLE RASPBERRY.

QUESTION.—What is the most profitable variety of raspberry, either red or black?

Mr. A. M. SMITH.—Probably if confined to one red raspberry I would say the Cuthbert, though there are several other good varieties. If growing for market, and if you have not a long distance to ship, you would probably realize as much from the old Highland Hardy as from any other variety. It is the very earliest, coming close on to the strawberries, and it commands a good price, although it is rather inferior in size and quality to some others. The Turner for cold districts is a valuable red raspberry, and ought to succeed anywhere in this northern part of the country. In blacks, at present I would recommend the Tyler or Souhegan—they are about the same thing; the Gregg in some localities does remarkably well, while it fails in some soils. With me it was almost a failure last year, while with some of my neighbours on light loamy soil it succeeded admirably. If your soil is a light loam, the Gregg ought to do well; but on clay I do not think it will do so well. Another black cap which is claimed to be a better bearer than the Gregg is the Ohio, but as I have not fruited it myself I cannot speak from experience.

Mr. BUCKE.—Have you fruited the Reliance?

Mr. A. M. SMITH.—Yes, I fruited it this year. It is a very promising red raspberry, although the colour is a little dark. For market, you want a good bright colour. One objection to the Philadelphia is its colour; otherwise it will produce probably as much fruit as any variety we have. The Reliance has a little better colour, and I think perhaps it is a little hardier.

The PRESIDENT.—Do you have to consider quality in supplying the public, or is it quantity only?

Mr. A. M. SMITH.—It is generally quantity. The Cuthbert is superior in quality, colour and size to the Philadelphia.

Mr. MORGAN. Of the reds I have not any doubt but the Cuthbert is far the best of these I have grown or seen grown. It is certainly hardy, a great cropper, and its flavour is exceedingly good. The Turner is a very fair berry indeed. The Brandywine, of which we heard so much, I do not like at all. It is hardy, but it grows small. In blacks, the Mammoth Cluster is sure, and its flavour I think is superior to that of the Tyler; but the Tyler is about ten days earlier than the Mammoth Cluster, while the Gregg is ten days later. By growing these three varieties, I can continue the black cap season over about three weeks. The Gregg, which is said to be not at all hardy in some places, is perfectly hardy with us, and needs no protection whatever. The only objection to it is that it is liable to be broken down by the snow; but throughout the winter it lives right up to the tips.

BLACKBERRIES.

QUESTION.—Would blackberries be likely so succeed in this county?

Mr. MORGAN.—There are two which will certainly succeed here, which are perfectly hardy—Taylor's Prolific and the Snyder.

Mr. BEADLE.—Have you tried Stone's Hardy?

Mr. MORGAN. No.

Mr. BEADLE.—They say it is hardier than either.

Mr. MORGAN.—If it is hardier than the Snyder, I would like to see it.

Mr. CASTON.—Have you tried the Kittatinny?

Mr. MORGAN.—That has not succeeded at all; neither has Wilson's Early. I think

the only two that will do for this section are the Snyder and the Taylor. The wild crops are immense in this neighbourhood, and there is comparatively little difference in size between the wild and the cultivated blackberries,

The PRESIDENT.—How does the Snyder compare with the wild?

Mr. MORGAN.—It is very much better as to flavour, but it is not very much larger. I think I have seen as large blackberries growing wild as I ever saw, except the Kittatinny.

Mr. ROY.—My experience of the Early Wilson is that it kills down three years out of five.

Mr. GEORGE OTTAWAY (of Barrie).—I have tried the Kittatinny, and have found it to kill down every year.

The PRESIDENT.—I would strongly advise you to root out the Kittatinny, and to plant Snyder.

THE HARDIEST AND EARLIEST GRAPE.

QUESTION.—Next to the Concord, what is the most hardy and earliest ripening variety of grape?

Mr. CASTON.—I asked that question. In this county, to succeed in growing grapes it will be necessary to cover them in winter, because our winters are so severe. The Concord, I think, has succeeded pretty well, and I should like to know if there is any other grape just as hardy that will ripen earlier than the Concord and that is of better quality.

Mr. BEADLE.—Of course I do not live in this county, except just now, and I have no experience in ripening grapes here nor in a climate just like this. But if I were living here, and were trying to raise grapes, I would try the Early Victor for one. I believe it will prove as hardy as the Concord, if not more so; it bears some resemblance to the Clinton in that respect. Then I would try the Linden, which is a seedling of the Concord, but ripens at least two weeks before it. My vines have only borne two years yet; neither the bunches nor the berries are quite so large as those of the Concord, but I would believe it to be the Concord if it were a little later in the season, as the taste is very similar. The Worden ripens just after the Linden, and generally a little earlier than the Concord—I think about a week. These four varieties would all ripen well here; they are all black grapes. A year ago last winter a neighbour of mine who had about a hundred vines of Moore's Early, planted about a year, lost nearly every one of them, and I have been afraid since to recommend anyone to plant Moore's Early in a cold climate; and yet his Concord, which were growing almost by the side of his Moore's Early vines, and which had been bearing grapes for eight or ten years, were many of them killed out and out by that same winter, and a little farther on in his vineyard a grape vine which is as early if not earlier than any of those I have named—the Champion, a very hardy thing—was killed out also, although it had been bearing for many years. Accidental circumstances like these may not be fair to judge by. I would therefore recommend you to try Moore's Early. It ripens about the same time as the Early Victor, but has not so good a quality. If any of you feel like growing grapes here to send to some place farther north before the neighbourhood can get grapes for itself, I would advise you to grow the Champion. It is the most worthless grape you can grow to eat, and it is the best grape you can possibly grow to sell. I have twenty-two vines of the Champion, which were fruited for the first time two years ago, and my gardener said to me, "I am going to Toronto, and I think I will take those Champion grapes with me." "Well," I said, "do, because nobody here wants them." He took them, and brought me back \$72. A red grape I would advise you to try is the Massasoit. It is hardy, and it ripens early, and it has an agreeable flavour, although it tastes a little musky like all Rogers' grapes. Just after the Massasoit comes the Brighton, and if you do not let it get very ripe, I think you will find it just about the best grape you have. Pick them from the vine before they are dead ripe, and you will have them at their best. If you let them get dead ripe they will lose some of their sprightliness, and be somewhat flat. The vine is very prolific, the bunches being large, and the berries of as great a size as the Isabella's. I think you can grow these two varieties of grapes here, and I think you will be pleased with them.

Mr. BEALL. —What is your opinion of the Vergennes?

Mr. BEADLE. —It is a good grape to keep, and I am told that it is hardy, having originated in Vermont, which is a cold country. I suppose you could grow it here, but it is not an early grape; it is a medium ripening grape; it will not ripen a day earlier than the Concord with me; but you can keep it. I have seen it in February as fresh and fine as at any time of its life.

Mr. CASTON. —There is great danger in this part of the country of early fall frosts, so that the great thing is to get an early ripening grape for this county.

ADDRESS OF WELCOME.

Mayor SEWREY then came forward amid applause, and said:—Mr. President, I feel that Barrie has been greatly honoured by this visit from the Fruit Growers' Association of Ontario, and I believe that much good will result from the meetings held here. The questions which have been brought forward, and the discussions which have taken place, will induce the people of this district to think and study more about the subject of fruit growing. It is one of the important industries of this country that ought to receive greater attention; and the fact of your Association meeting here will, I am satisfied, stimulate farmers and others in this district to engage in the cultivation of fruit to a greater extent than before. I believe that fruit growing is one of the most profitable enterprises that a farmer can undertake; it requires less labour and less care, and yields greater profit than almost any other department of agricultural industry. I do not feel disposed to take up your time in making a speech to-night, as I hope to have another opportunity of addressing you. I will merely thank you, on behalf of the inhabitants of Barrie, for the honour you have conferred upon us in having held your meeting here. I believe the discussions which have taken place and will take place will confer a lasting benefit on the people of this town and the surrounding country. (Applause.)

The PRESIDENT.—Mr. Mayor, ladies and gentlemen. —On behalf of the Association I beg to tender our thanks for the very kind and cordial words of welcome which his worship the Mayor has just uttered. The Association is in the habit of meeting from time to time, generally three times in the year, in different parts of the Province, partly for the purpose of giving information, but mainly for the purpose of obtaining information as we go, with regard to the growth and production of fruits in Ontario. One of the chief aims of the Association has been to extend, if possible, the area of fruit culture in our Province, and thus to give to a larger number of our people from year to year the advantages and privileges which those of us who live in the more favored portions of Ontario have long enjoyed. In doing this work we naturally visit from time to time the more northern sections of the country, and so we learn what varieties are succeeding there and are also enabled to form some idea as to what varieties we can suggest for further trial, from our own experience and from the experience of our neighbours in the United States, many of whom live in sections as cold or colder than you do here. I think the visits of our Association to the northern sections of the country are productive of good on both sides. We receive good ourselves, and we give the benefit of our discussions to a large number of people throughout the country by means of our Annual Report; and as we have about 2,500 members, you can easily judge of the extent of the influence of this Association. I think this meeting will result in good to Barrie, as it will show what a large variety of fruits you can grow here, and I should not wonder if you would have a large immigration to this district when the members of the Association find that you can grow so many things and grow them so well. Mr. Smith, of St. Catharines, says the Gregg raspberry is tender; Mr. Morgan, of Barrie, says it is perfectly hardy; so that, for that variety, it seems that you have a more favoured climate than even St. Catharines. This meeting, I think, will also do you good in stimulating a desire among your people for fruit growing on a more extended scale. I do not know anything a man can engage in that will yield him as good a return in as short a time as growing some of the smaller fruits where there is a good market and fair prices. This kind of missionary effort we endeavour to carry forward wherever we go. Last summer I had an opportunity, in company with the secretary, of visiting Manitoba. We were in Winnipeg at the same time as the Hon. Mr. Joly,

who had with us been attending the Forestry congress in St. Paul, Minn. The Lieutenant Governor got up a meeting at which we were called upon to answer and discuss some important questions relating to fruit growing and forestry, and that very night a Fruit Growers' Association for the Province of Manitoba was organized. Here, too, I am sure you will be greatly benefited by the discussions which have taken place on the various queries that have been so well answered by the members of our Association. Again thanking you, Mr. Mayor, on behalf of the Association for the very kindly welcome you have given us, I will not detain the audience any longer. (Applause.)

AN INJURIOUS INSECT.

The question was then taken up: "What insect is destroying the foliage of the maple trees on the grounds of Mr. C. H. Ross? Are its depredations confined to that locality? What application can be used or means adopted to destroy the insect or prevent its ravages?"

The PRESIDENT. I had a chance of asking Mr. Ross one or two questions about this insect yesterday. It appears that it gnaws at the base or somewhere along the stem of the leaf of the maple, and in a very short time so injures the petiole of the leaf that it breaks off and the leaf falls to the ground, and he says that in this way he lost almost the entire foliage of his maple trees during the summer. He could not explain to me what the insect was like, and I could not, from his description, make out what it could be. My impression is that it is one of the snout beetles—one of the curculios. The habit he describes is a habit of the beetles belonging to that family. I suppose Mr. Smith knows the peach tree curculio in Niagara, the large grey one, which gnaws into the stems of the leaves of the peach tree, and causes them to fall off. This insect may be a curculio, or may be something else. I cannot throw any further light on the subject. If Mr. Ross were here we might cross-question him, and learn something more about it. If any gentleman present has had similar experience, we should like to hear from him.

FLORICULTURE IN THE SCHOOLS.

The next subject for discussion was: "The desirability of interesting our children in floriculture by the cultivation of flowering plants and trees in the school grounds. Can the study of Botany be introduced with advantage into our public schools?"

The PRESIDENT asked Mr. Spotton to open the discussion.

Mr. SPOTTON. I should be very glad indeed to make a remark or two on this subject, but I should like first to hear the views of the members of the Fruit Growers' Association themselves. I am not engaged in public schools proper. I see Mr. Morgan, the Inspector of Public Schools, and several public school teachers present. I should be glad also to hear from them.

The PRESIDENT.—I will ask the chairman of the School Board of St. Catharines, our secretary, who, I know, has something good to say on the subject, to address you.

Mr. BEADLE.—I have some views on this subject, but I am sorry to say they are largely theoretical. The grounds of our schools in St. Catharines are about large enough to hold the school buildings and to leave a little room for the children to exercise in during their fifteen minutes recess; and that is about all the ground they have. I have often said to the members of the board, "I wish we could manage to get a few trees and shrubs into some of these yards," and the reply always is that the children want all the ground to play in, and that they have stamped it down so hard that nothing will grow in it. I have also spoken sometimes to gentlemen in charge of the schools in the surrounding country, and I have asked them, "Why don't you do something to make these school grounds pleasant?" I have an idea that if the people in charge of our schools would take a little pains and spend a few dollars in making the school grounds cheerful, the children would learn better, they would be more disposed to go to school, and they would feel more at home in a school that looked like a pleasant place, with cheerful and attractive surroundings. Instead of that you have a brick building in the middle of a ground as bare as the back of your hand, as infertile as Sahara and about as cheerful. I do not think the influence of

such conditions is the best thing for our children. Then I have another idea on this subject. We want to familiarize our children with the things that are about them every day of their lives. I have asked young men who had gone through the schools the names of various trees, and very common trees. They did know a basswood and a beech, but some other trees not quite so common they knew no more about than they knew about the trees that grow in the tropics, which they have never seen in their lives. If you show them the plants that grow beneath their feet in the meadows or the woods, not one out of a thousand can they name or tell the family it belongs to, or what its qualities are. Now, I think that is all wrong. I think in the first place we ought to make our school-houses and our school grounds as bright and cheerful as we can. I think we could easily start the children growing a few flowers. The late James Vick used to offer—I do not know but in all the United States—to give to any school board a certain quantity of flower seeds on condition that the children should have ground allotted to them in the school yard, and be allowed to grow the flowers there under the supervision of the teacher, and should make an exhibit of these flowers at the next fair of the county; and the school that made the best show of flowers should have a certain quantity of seeds, perhaps two dollars' or five dollars' worth the next year, to plant. Now, I believe the children who are thus taught to grow flowers in the school yard, and who have a teacher with good sense enough to give them a little instruction as to how plants grow and as to the parts of a plant, would take so much pleasure in their work that they would hardly feel that they were learning something. They would not look upon such instruction as a lesson, and they would regard their school grounds as something they could take a pride in and love to go to; and instead of being a barren waste with a building in the middle, the school grounds would be a place of beauty and cheerfulness. The study of botany in our schools I hold to be exceedingly desirable. If I had the control of our schools I would abolish some of the little fragmentary things the children are now drilled upon, which are of no earthly use to them, and I would substitute instruction with reference to the things that are about them every day. I would make our President professor of entomology for the school teachers of Ontario until they learned enough to enable them to tell their children something about the butterflies and the bugs, and to open their eyes to the wonders of nature about them. A man lately came to me and said, "I do not know what is the matter with my plum trees—a great many of the plums are falling off." I said to him, "Are you living in this nineteenth century, and do not know what is destroying your plums? Have you a horticultural society here?" "Oh yes," he answered. "Did you ever attend one?" "No, I do not know as I did." "Well," I said; "you had better take the Horticulturist." That is an illustration of how the want of knowledge of the ordinary things about us is affecting our people. I will not go further into the question of teaching botany. Our President can, if he chooses, tell you that there are plants growing in our fields that are valuable for their medicinal qualities, and our people know nothing about them. There is the common couch grass, for instance, which our farmers little know is worth so much a pound if they choose to gather it up and sell it. The President spoke of me as chairman of a school board. Well, you know all that the chairman of a school board has to do is to sign cheques; that is the most of my connection with the schools. There are gentlemen here whose business is to inspect schools, to train teachers, to teach the children. These are the gentlemen who can give us light on this subject, and I hope they will make their light shine until it shines into the rooms of the heads of the Education Department in Toronto, who control the schools. I think it is time our Minister of Education was educated up to the idea that our children should be taught something that would enlarge their minds a little more than many of the things that they are now taught.

Mr. MORGAN.—My views are so well known on this question that I should prefer to hear some other gentleman speak upon it. I will say this, however, that excepting the study of music, I know of no higher, more ennobling and beautiful study than that of plants. I have always held and still hold that it is very important that everything connected with our schools should be made attractive. It is important, in the first place, because it attracts the children to the schools, and I think that we need every power we can bring to bear to encourage our children to attend school. We know that even in towns and cities, truant officers are found to be necessary; and it is certain that in country

districts great difficulty is often experienced in getting children to attend school regularly. That is partly due, I think, to defects in our system of education. We are apt to pride ourselves on having the best system in the world; we constantly hear it from public platforms. But I agree with Mr. Beadle that we are teaching a great deal in our schools that is neither necessary or useful. I think it is partly traceable to that fact that many of our pupils have a great dislike to going to school. There are other causes which need not be enlarged on here. If we can make the school yards and the surroundings of the school so attractive that the children will desire to go there, I think it is our duty to do it. As the child is, so inevitably will the future generation be; as the child is, so very generally are the parents. Anyone driving through the country, as I am doing every day, and passing farmhouse after farmhouse, must be painfully struck with the remarkable absence in the majority of cases of everything which tends to ennoble and make pleasant the homes of our young people. While every means is neglected to make the farms attractive and pleasant, the cry is raised that numbers of our young men are leaving the farms and going into other businesses. If our farmhouses were surrounded by pleasant gardens and orchards and small fruit patches, I think we should soon find that our young people would not show the strong desire they now do to go elsewhere. If we could implant in the children who attend school a strong admiration for and a desire to work among plants and fruits and flowers, we should influence their parents indirectly in the same way, and that influence would have its reflex effect upon the rest of the family; and we might be sure that the next generation of farmers would see that their homes had different surroundings from what they have to-day, and that they would regard matters of this sort very differently from what many of them now do. So that, in view of the great benefit that would accrue in years to come from this kind of instruction, I look upon it as one of the greatest improvements that could be effected in our school system; but at present I fear that in a district like this, we are very far away from its realization. It must be manifest that when you have an unfenced and neglected school lot, it is vain to attempt to beautify it. Such is, unfortunately, the condition of many. The first thing to be done is to offer such salaries to teachers as will make it worth while for the best class of our teachers to remain in the profession. The next thing is to provide a good school-house with grounds. Thus you insure good teaching and good accommodation. Having accomplished these two things, I look to the beautifying as the third object. In my district of North Simcoe I have endeavoured to bring about this condition of things in some places, and I have in a few cases succeeded through the pluck and perseverance of the teachers. But the most we can do at present is to strive to create such a public feeling that when we apply ourselves to obtain these suggested improvements they shall be made. My only feeling in connection with the matter is that the two first ought to precede—first, the efficiency of the teacher, who makes the school, who is the school, then the proper equipment of the building, and after that by all means the other. I have succeeded in a few cases, and I hope to succeed further, in accomplishing good results. In perhaps twenty schools in the county some attempt has been made even at flower gardens. They have not, however, met with a great deal of success, because, unfortunately at the very time when these gardens need the most attention, both teacher and children are absent from school, and they are left to the mercy of every wandering depredator who comes along; that is, during the summer vacation. But this objection would not apply to the planting of trees, nor to sodding, nor to the planting of some flowering shrubs. This should be done, and I think could be done, in many places; if this Association took a decided stand and expressed a decided opinion, it might accomplish something; at any rate, it would place an additional argument in the hands of those who have the interests of the schools at heart. On the question of teaching botany I shall say nothing. I think I may leave that safely in the hands of Mr. Spotton.

Mr. GEORGE E. SNEATH.—I cannot add much to the remarks of Mr. Morgan. The beautifying of the school grounds, in the way proposed, is something which most teachers would like very much to see introduced. I have found that even the bringing of a bouquet to school in the morning, and placing it upon my desk, has a good effect upon the pupils.

The PRESIDENT.—Have you introduced house plants at all into the school room?

Mr. SNEATH.—No, I have not. In the first school I taught I had several shrubs and forest trees planted in the grounds. They flourished well, and had good care taken

of them until last summer : but this summer I visited the school and found that the trees were all dead, and the shrubs were beaten down to the ground.

Mr. A. M. SMITH.—In one of the most successful schools in the Niagara district the teacher has, during the past eight or ten years, kept up a good supply of house plants during the winter. They have been well cared for, and they form a great attraction to the school.

Mr. MORGAN.—I fear that would be a difficult matter to accomplish generally, because in our region up here the thermometer sometimes goes very low, and anything in the shape of a plant would be unquestionably frozen at night.

The PRESIDENT.—That would not prevent the practice being kept up late in the autumn or early in the spring. Everybody, at some time or other, takes a plant fever. We know with what eagerness we like to go out and scratch the first bare ground in spring and plant something, even if it is only a few peas : we are delighted to be able to go out and smell the emanations from the fresh earth and drink in the fragrant air. I have seen the plan of keeping house flowers carried out very successfully in our schools in London. Some of the lady teachers have taken a warm interest in the matter, and during a great part of the year house plants may be found in their rooms.

Mr. MORGAN.—That may be done in London and might in Barrie, but not in the log school-houses in the country.

Mr. JOHN CROIL.—If the same encouragement were given to the teachers to beautify their school grounds that is given to the keepers of railway stations, we might have every school ground turned into a garden. We may see an example of what I refer to at the head of the bay here, where the railway station has a beautiful little garden in connection with it.

The PRESIDENT.—It is no doubt a sad truth that a very large proportion of our intelligent young men and young women, as well as old men and women, know so little about the things they are treading on every day. The ignorance displayed in that respect, if carried into any other department of life, would be thought appalling ; people would rise up in indignation ; and yet we submit to the prevailing ignorance on this subject year after year, and make very little effort to remedy the evil. Every season we may see stories in the newspapers about people being poisoned by plants, which a very small amount of information would have prevented. Take a common plant, such as our poison ivy. I was surprised not long ago in meeting with a very intelligent lady who told me that she had been poisoned by some plant, and her arms were much swollen. I asked her if it was not poison ivy. She said she did not know, and she could not tell what poison ivy was like—whether it was a plant, a shrub, or a tree, and she did not seem to have any desire to know what it was like. I think as an association we should take a strong stand, and urge upon the public the extreme importance of giving that instruction which might result in the saving of suffering and of lives sometimes, if it were made general, and the only way in which we can make it general is to begin at the foundation and teach it to the children in the schools. For one I feel that the study of natural history in all its departments is of far greater importance than some of the branches to which so much time and attention are now given in our schools. If the time given to comparatively useless matters, or even a small part of that time, were given to a subject so useful as natural history, it would be a great boon to the country. I hope this question will be agitated until not only botany but entomology also is taught in our schools. I suppose not a year passes but we see in some of the newspapers statements of serious results occurring to people from the stinging of a caterpillar which infests tomato plants, and which is said to sting with its tail. If you saw a paragraph in a paper to the effect that a new breed of dogs had been introduced into the country which stung with their tails, you would think it was a rather tall story, but it is quite as improbable that caterpillars sting with their tails. I just mention that as one little illustration of the ignorance which prevails on this subject. I have seen children, and grown people too, warn children against handling certain plants and insects. They will say, "That's poison, don't touch it," and in that way they frighten the children from becoming familiar with these objects which would afford them a great deal of pleasure and amusement. For the reason that insects are so very injurious to our fruits and plants, and to almost everything

we use, it is of the greatest importance that we should know something about them, as well as about plants. I think the knowledge of botany and entomology should go together, and that our youth in the public schools should be taught both these departments of natural science.

MR. CHARLES DRURY.—With regard to the beautifying of our school grounds, I think there can be no two opinions, but until the towns and cities give a better example of what can be done in this direction we cannot expect the outlying districts to be very deeply impressed with the importance of the matter. My observation is that in places where the best facilities exist for embarking in this work it is often utterly neglected; there is a piece of ground that is made hard and barren by the constant tramping of the feet of hundreds of children, and that is the end of it. But the inspector for North Simcoe will I am sure bear me out when I say that there is a great improvement in this respect. We must look at all such things from the utilitarian point of view first. This country is yet in a transition state: we are just waking up to the idea that it is as important to beautify our school rooms as to beautify our homes; and while I think there is a great want of taste as yet exhibited in regard to the adornment of our homes, still I believe we are rapidly emerging from the poverty and roughness that must be incidental to the pioneers of a new country, and are gradually developing a taste for what is beautiful and ornamental. This is a subject which I would venture to suggest should be discussed by our public school associations. If a resolution were passed by an association of such importance as this, and backed up by the public school association of North Simcoe, I think we could go to the trustees with an assurance that there is liberality enough among them to give a start to this good work. (Applause.) As to the study of botany in our public schools, everyone will admit that it would be foolish to teach a child botany before he knows anything about arithmetic. If I know that I can send a boy to school as long as he can learn anything, I am not particular as to what he learns so long as it comes in natural order: but most children can only be sent for a limited time, and they should be taught those things which will be most useful to them in future life, such as reading, writing and arithmetic. Our worthy secretary suggests that pressure should be brought to bear on the Minister of Education. At the Council of the Agriculture and Arts Association I suggested that agriculture should be taught in the public schools, and a text book, I believe, will shortly be introduced. But the cry among the teachers of the Province now is that the branches are too numerous, that they are compelled to teach too many subjects, and that in the vast majority of cases children do not remain in school long enough to acquire an intelligent knowledge of any one of them. I therefore rise for the purpose of asking Mr. Morgan and Mr. Spotton whether they think that, at the present juncture, it would be desirable to add botany to the list of subjects now being pursued in our public schools.

MR. MORGAN.—I have no hesitation in saying that I believe we are teaching or trying to teach too much in our public schools. I think our education is not practical enough. For instance, we are teaching grammar, and not English; we are teaching fractions, and not commercial arithmetic; we are teaching everything under the sun except the English language. I believe that so long as the programme remains as it is now—and I believe it will not remain long as it is now under Mr. Ross, who is a practical man with a level head—so long as it remains as it is now, you can do very little. I, for one, would be strongly opposed to putting on the programme anything additional to what is there now. But granting that it is the duty of our teachers simply to fit their scholars for the battle of life—granting that all they should teach their scholars is to read so readily and intelligently that it would be a pleasure for them to read as well as for others to listen, to write in a fair hand with properly spelled words a fairly expressed letter, to know the elements of commercial arithmetic sufficiently to be able to keep fairly the books appertaining to the house or to the farm; then, if the regular teaching of the schools were limited to that, and the day cannot come too soon when such is the case, the next thing is to let them know something about the wonders of the creation about them. And first and foremost should come, not the study of botany as I was compelled to grind it in the University, but such botany as Mr. Spotton has paved the way to the teaching of by the issue of his little book on practical Canadian Botany, which will appeal to the every day life of the scholars. But I do not think you should stop there. Nor would I stop with entomology.

We should teach them something of that wonderful world around them with which they have to do every day of their lives, because there is no better cultivation of the intellect than the reasoning from observation of the things about them. I believe the two elements which go to make a man a self-educator are observation and reason—a correct and rapid observation of the facts about him, and a logical reasoning from these facts. That is what has made the greatest scientists and the men most useful in their day and generation. But I do not think we should begin with the children; that is one point on which I differ from Mr. Beadle. I think we should begin with the teachers. If the teachers have never been taught these subjects, they cannot teach them to others. Give me a teacher who, when a remarkably hot day comes and the spirit of mischief is abroad, can just shut down on all work, and interest his school for a while on the very flies that play about the window-pane. After such a pastime the children will return with infinite zest to their studies. Or he might go out of doors, and with his magnifying glass show his children a thousand wonders in the green stuff taken from the ditch by the road side. Give me such a teacher, and I will show you a school that is alive from January to December. But in answer to Mr. Drury's question, I will say that so long as our programme is as it is, and the teachers teach merely the things they are taught, I think it would be worse than folly to add anything more. The trouble is, not that the children do not want to know these things, but it is often too much trouble to answer them, and even if it is not the teacher probably does not know enough to satisfy the God-given curiosity.

Mr. SPOTTON.—I am very glad to have listened to the discussion on this subject, especially to the practical remarks made by Mr. Drury, and the treatment of the question by Mr. Morgan, the Inspector. I think Mr. Drury struck the nail exactly on the head when he stated that there were more important things that should be taught to our children, whose time in school is very limited, than the study of Natural Science. This question of teaching botany in the public schools, I think, has never come up in any practical shape in Ontario. The question of teaching this subject in the high schools has come up, and I believe its study has been introduced there. My opinion is that the time is hardly ripe for the introduction of the subject in any shape at all into our public schools. I sympathize with the teachers and the children in the amount of work they have to do now, and I think it would be imprudent to introduce this additional subject in any extended way into the programme. Another trouble is that the teachers themselves in this Province have not yet had an opportunity of acquiring the necessary training to enable them to teach this subject as it ought to be taught. As Mr. Morgan has reminded you, the study of botany at college means the memorizing of a great many names which mean nothing or almost nothing to the student. After I left college I had to begin the study of botany over again, and got it up in an entirely different way. My attention was called the other day to an address delivered by no less a person than the Rev. Principal Grant to the Ontario Teachers' Association. He was talking of some fallacies in education, and he spoke of persons who have fads. Well, there are people who have fads; we speak of them as "cranks." The Rev. Principal, after referring to the grammar fad, remarked:—

Another authority comes along and points out that no one can be said to be educated who does not know botany. What, let a child go through the fields without knowing botany! And so he must learn lists of long Latin words infinitely more burdensome than the old Latin doggerel in which rules were committed to memory." And in that flippant manner he discussed the question of teaching botany in the public schools. His idea apparently is that the learning of botany consists in the cramming of technical names. I have a high respect for Principal Grant, and his opinion is worthy of credit, but when he calls that the teaching of botany in the public schools I think it is time for those who know better to speak out. The thing is perfectly absurd. That is not my idea at all. I think a child can be taught enough botany to make him acquainted with many of the things he sees in the fields without requiring him to learn those Latin jaw-breaking names at all. They have their use, but they can be dispensed with in the case of children. Dr. McLennan, in the last report he made of the progress of science teaching, especially botany and chemistry, in the high schools of the Province, points out that while a certain amount of progress is being made the difficulty is to find teachers who can teach it in the proper method, the inductive method, the true scientific method. I believe that thoroughly, and I believe

we must first of all train the public school teachers for this work just as the high school teachers have to be trained. Well, what is the remedy? There are Model and Normal Schools, and we have to get proper teachers there. I believe there are some proper teachers now, especially in Toronto. I believe the science master there is perfectly capable of turning out teachers qualified to teach this subject. I would like to mention to this meeting what has been done so far. During the last two years botany has been one of the subjects on which candidates for teachers' certificates in this Province might be examined. Everybody who knows anything of our educational system knows what an outcry has been raised against the algebraical conundrums which have been propounded year after year to candidates for teachers' certificates—girls and boys alike. Those who have had anything to do with the teaching of girls and boys together know that there is a considerable difference between the girl mind and the boy mind after a certain stage has been reached. It is very rare to find a girl who has any great mathematical power; I have only known two or three. As a rule girls can learn the elements of mathematics; they can learn a little Algebra and Euclid; but when they reach a certain point they cannot go any further. That distinction ought to be recognized. I had some conversation with Dr. McLennan on this matter, and he is a perfect mathematical genius. He expressed his willingness to exempt the girls from the higher mathematics, and to allow them to take botany or music or natural philosophy—any one of these three subjects. I have been curious to see to what extent botany was taken up. Perhaps Barrie is not a fair example, as I have urged upon the girls the advantage of studying botany. In Barrie a fair proportion of the girls took advantage of this option, but not so large a proportion as in other places; and with what result? Did they prepare their botany work any better than their algebraical papers? In Barrie, where girls who took algebra had the greatest possible difficulty in making twenty per cent., just sufficient to scrape through at the last examination, there were girls who made ninety-seven per cent. out of one hundred marks in botany. That showed which subject the girls took most interest in; and the paper was a difficult one, set by a man who knew something of the subject. That is the report here, and I have no doubt there are similar reports elsewhere. The matter is making satisfactory progress, and I think in time we shall have teachers in whose hands can confidently be placed the training of our public school children in this subject. Now, to what extent should we teach it to the children? To the same extent as in the high schools? By no means. I would say, to a very limited extent indeed. I would not have a text book placed in the hands of the public school children at all. I would have the actual plants themselves made use of, and the explanations given to the children in a lively, interesting way. If the teacher was thoroughly well prepared to give these lessons, as teachers ought to be, then I think there would be no objection to their giving their pupils, as a recreation, say an hour on Friday afternoon before closing the school. This is not a novel proposition; it has been carried out in the United States, where children are taught botany in that way. I do not think it is called botany, but lessons on plants. The same thing prevails in England. One of the most interesting papers discussed in the British Science Association at Montreal was on this subject; and it was a matter of great interest to me to learn that of all the scientific subjects which are making headway, botany is far outstripping them all. Of course I can understand that, because the materials for the study exist everywhere, and there is no expense in the way of fitting up laboratories; and then, greatest of all, there is the natural love that children have for flowers. That is something that ought to be cultivated, and there is no difficulty in cultivating it. This subject has been made the basis of an inquiry by an educational commission in England, who went into the matter very exhaustively. They had before them Dr. Hooker, one of the highest names in the history of botany, who was examined very closely, and who explained his views, in which he favoured teaching the elements of botany to very young children. They also examined one of the Professors of Cambridge University, who used to teach the children botany by going around with them gathering specimens, and never used a text book, with very satisfactory results. It is a curious thing, however, that while this matter is progressing so satisfactorily, a new programme for teachers in this Province has been got out, and the subject of botany appears to have been omitted. That is very extraordinary to me, because I knew it had been Mr. Ross'

intention to make that subject not merely optional but compulsory. I do not know whether the omission was purposely made or not. I know that representations had been made to the Department on the subject, though I have not felt it my duty to do so because a book of mine happened to be one of the text books. However, I had no hesitation at all in giving my views to this meeting, because the question of teaching botany in the public schools is of no material interest to me, as I would not have a text book employed. I am sorry to have occupied your attention so long. (Applause.)

Mr. ROBINSON.—I agree very much with what has been said as to the desirability of getting the teachers interested in the subject of beautifying the school grounds because, once the teachers are in sympathy with it, there will not be much difficulty in carrying it out. It seems to me it would be a good thing to have this matter introduced to the teachers' convention of this county—in fact, in all the teachers' conventions in the province. But I think we ought to begin with the teachers a little earlier. Why not begin with them in the Model schools? Would it be out of place for this Association to memorialize the boards of school trustees or the Minister of Education for this object? Why not begin with hardy annuals? I notice that a firm in Detroit has offered to all schools a packet of flower seeds each if they would plant them. Perhaps we have firms in Canada that would be willing to do something similar.

Mayor SEWREY.—I believe the cultivation of trees and shrubs about our school-houses is a very useful thing. The planting of shade trees about the town here has frequently occupied the attention of the council. We have done considerable tree-planting in Barrie, but a great many trees have been destroyed; the boys break them down. A very intelligent councillor introduced the question of planting trees about our schools, at least in front of them, where the corporation have power to plant them, and he urged that the teachers should be instructed to educate the boys to preserve those trees. That has been done, and I believe that in every instance where the trees have been planted around the school-houses they have been preserved. With regard to planting flowers, there are seasons of the year when school is not kept, and that is the time when the flowers require attention; but there is no reason why rose bushes and other interesting shrubbery should not be planted. I believe if these things were introduced into the schools, they would exert a great influence in the way of leading to the planting of shade trees and flowers about our farm houses. The surroundings of most of our farm houses are about as bleak and barren as those of a log cabin on the prairie. Many farmers lack a taste for these things. From his infancy the farm boy is taught that trees are to be cut down, and he is not taught their value for the purposes of decoration. The consequence is, that our country has been made more barren than it ought to be. Our school plots are usually very small, especially in corporations where land is dear; but if there is nothing more than a tree planted at each corner to indicate the boundary lines of the school property, and if the children are taught to respect those trees, an improving influence is sure to be sent abroad. I think this is a subject which might well be introduced into the public schools.

Mr. DEMPSEY.—While I am very much pleased with the remarks that I have listened to with reference to the teaching of botany in the public schools, and the ornamentation of the school grounds, I am constrained simply to tell you some of the results I have myself witnessed. I knew a lady who last year was teaching a public school in which there were two very unruly and unmanageable boys. So troublesome were they that they succeeded in driving her out of the school. Another lady applied for the school, but the trustees objected to employ her, preferring to have a male teacher who might be able to manage those two boys. However, they were persuaded to employ her, and the first thing she did was to select a number of her pupils and say to them, "I am going to furnish you with seeds for a flower plot; I want that to be yours, and I want you to keep it and take care of it." Then she selected another lot to take care of another bed, and they were all furnished with the plants and seeds as were the others. A few days afterwards I noticed a lot of those boys and girls going to their school with their arms full of plants. The result was that that school was laid out very nicely with flower beds, and the plants bloomed beautifully all summer; and I do not believe that from the spring to the fall you could have found a foot print of one child in those beds. Reference has been made to the possibility of

the flowers becoming neglected during the vacation. Such was the competition that arose among those children over their flower beds that during the vacation they attended to them just as well as they did during the time the school went on. With regard to teaching botany in the schools, I think a certain amount should be taught to all children from a very early age. To illustrate the necessity that exists for this kind of instruction, I will relate a circumstance that occurred in my own house. A noted clergyman, occupying a pulpit in one of our cities, and myself were talking about the producing of new fruit, and he asked me, "How many seeds does it take to grow a tree?" (Laughter.) I thought how much one could become ignorant of everything but his own hobby. I am willing that this should be the case to a certain extent, but there are some things that no one should be ignorant of.

MR. BEADLE.—I am very much gratified with the discussion which this subject has had to night. I am especially gratified to find that the educationists of our country are themselves awake to the fact that we have been drilling our children in a great many things that are of no practical use to them, and that it is high time that the education of our common schools should be made something practical and real instead of our trying to cram the heads of our children full of fractions and equations and conundrums, and expecting them to remember all the little islands there are in the Archipelago, which can be of no use to them when they grow up to be men and women. When I find the educationist waking up to the importance of this subject I think there is a good time coming for the children of this country. There was a gent eman in my garden one day who could beat my friend Dempsey's friend. He saw some beans coming up, and he said, "Look, Mr. Beadle, what's this? Somebody has been here pulling up your beans; there are your beans above the surface of the ground." (Laughter.)

MR. GEORGE E. SNEATH.—With regard to planting rose bushes, there is a bug that eats the fleshy part of the leaf all away in a night or two. If we could only get rid of him, there might be some use in planting rose bushes.

MR. BEADLE.—The simplest thing in the world—go to the druggist and get a little white hellebore and sprinkle it on the bush.

MR. SNEATH.—I have tried the hellebore and it is of no use.

MR. BEADLE.—What is the insect?

MR. SNEATH.—I do not know.

MR. BEADLE.—There is just an instance of the need of educating our school teachers; he does not know what the insect is. I suspect it is the thrip.

MR. MORGAN.—It is the white thrip, and he likes hellebore as a dessert.

THE PRESIDENT.—I object to that insect being maligned in that way. He does not like hellebore. He is furnished with a sharp beak by means of which he punctures a leaf and imbibes some of the sap of the plant, and the punctures that he thus makes gradually coalesce and form patches. But the gentleman mentioned that the substance of the leaf was eaten, and that is the way the rose slug works. However, it is easily destroyed by hellebore or Paris green. The thrip belongs to the true bug family, and is active all through its several stages. In the early stages it is very easily affected by suitable applications; it is then soft and spongy, and a slight touch will crush it. If you take an alkaline solution, not strong enough to injure the foliage, you can kill these little creatures very quickly. The alkaline matter is absorbed into their tissues and destroys them; but if they are left until they mature they become covered with a hard tissue, which makes them more difficult to deal with. They can also be destroyed by covering the bush with a barrel and filling it with tobacco smoke.

MR. STEPHENS (of Toronto).—I grow some roses, and I never have any difficulty in destroying the thrips with tobacco water, if I take them in time. I make the solution pretty strong. I generally buy a five-cent plug, which will do for half a dozen rose bushes.

The Association then adjourned until the following day.

COVERING GRAPES IN WINTER.

At the opening of the meeting on Thursday morning Mr. Robinson asked the question, "Is it necessary in this climate, in order to get good grapes, to lay down the vines and cover them?"

Mr. BUCKE.—I happen to come from a part of the country where we always lay our grapes down. No one thinks of dealing with them otherwise about Ottawa. We prune them in the fall, and then lay them down and cover them with soil, and I believe, from the appearance of the grapes grown in our neighbourhood, that it very materially increases both the size of the bunches and the size of the grapes. I think it is even more necessary to pursue that practice in a climate like this because there is less snow fall here than about Ottawa. The vines should be covered with one or two inches of earth, which is quite sufficient, and they will come out much better in the spring. All the pruning should be done, of course, before they are laid down.

The PRESIDENT.—The subject of grapes is on the programme for this afternoon, when there will be an opportunity to discuss it further.

The annual reports of the Directors and of the Secretary-Treasurer were then submitted and adopted, after which the President delivered the annual address—as reported in the proceedings of the annual meeting.

COMMITTEE ON FRUITS.

Mr. MORGAN presented the Report of the Committee appointed to examine the fruits on exhibition, as follows :

To the President and Members of the Fruit Growers' Association of Ontario :

GENTLEMEN,—Your committee, appointed to examine the exhibit of fruit made at this meeting of our Association, beg to make the following report :

Mr. A. Hood, Barrie, showed some fine samples of Wealthy apple, even in size and beautifully coloured, also eleven varieties of grapes. Grapes do not appear to set so well as those in other parts of the Province, the bunches being small though well ripened. The want of size however may be attributed either to the soil or to spring frost. A bottle of wine made from unripe and half frozen grapes showed a clear and beautiful colour, and the quality was pronounced to be excellent.

The President, London, exhibited a Russian water melon, the seed of which was imported by Charles Gibb, Esq., Abbotsford. The peculiarity seems to be that it will keep until Christmas. Your committee are unable to express any opinion as to flavour, being deterred from experimenting by a wholesome dread of the "deadly fruit," as it is called. He also showed a very fine collection of grapes, among which your Committee wish particularly to name : Telegraph—Very close set bunches, small ; good flavour at first, but after taste disagreeable. Arnold's Canada—Well grown sample, but wanting frost to bring out quality. Early Victor—Small bunch and medium berry : good flavour. Jessica—Early white grape, small bunch, medium berry : very sweet, good flavour. Seedling No. 11—Resembling large Concord, but berries seem to drop. Concord and Delaware Hybrid—Sweet grape, medium size. In another part of the room he added to his laurels by an exhibit of apples and pears. The six varieties of apples were all fine, the "Ontario" being an extra sample, and the pears comprised Seckel, Flemish Beauty, White Doyenne and Beurre Hardy, the last being a most delicious pear.

Mr. P. C. Dempsey, Trenton, showed a new seedling fall apple, very deep colour, fine grain, juicy and crisp, very good to best : remarkably promising whether for home market or shipping. Well worthy of propagation.

His exhibit comprises also four grapes which reflect great credit on the exhibitor ; Lady Washington, Jefferson and Burnet, fine large bunch of excellent quality, and Seedling No. 25, a white grape of good quality.

Mr. A. M. Smith, of St. Catharines, makes a splendid display of some superb bunches of the Niagara grape, grown in Lockport. This grape deserves special mention, being magnificent in bunch and berry. It is the best white out door grape shown.

Mr. Beall, of Lindsay, shows two perfectly ripe bunches of the Niagara grape, and good specimens of the Wealthy, St. Lawrence and Snow apples.

Vice-President P. E. Bucke, Ottawa, has two varieties of grapes on exhibition—Burnet, these bunches being very heavy and closely set and of excellent quality, and Lindley, Rogers No. 9, grown in paper bags: excellent samples, good sized bunches, very closely set.

Mr. J. J. Brown, Barrie, has a very creditable display of fruit, comprising a good sample of Delaware; a medium sized bunch of Rogers No. 9, and the inevitable Champion among grapes; seventeen varieties of apples well chosen, and a seedling grown by Mr. Robert Little, of Innisfil, very large, brilliant red, faintly streaked, subacid, strongly recommended.

Mr. Wm. Ness, a farmer resident in Innisfil, makes an exhibit which shows what may be achieved on a farm without interfering with the ordinary work. This comprises a very creditable display of ten varieties of grapes, four varieties of pears, and thirty four varieties of apples, many of them of good quality, also a seedling fall apple, bright colour and medium in size and quality.

Mr. C. H. Ross, Barrie, showed three varieties of out door grapes, one variety being very well grown.

Rev. Alex. Dawson, of Gravenhurst, deserves special mention as showing what may be done in grape culture at a point so far north. The six varieties of grapes were all exceedingly well grown and well ripened, and occasioned much favourable comment, as did also a splendid bunch of Hyslop crab grown by Mr. J. McAlister of the same place.

Mr. John Harris, Barrie, showed two baskets of very fine mushrooms, which he claims were specially produced by the manure from a brood mare. The fungi were certainly well grown, and had a very toothsome appearance.

Mr. W. Roy, of Owen Sound, shows a very good sample of the Ontario apple, and a seedling of considerable promise. He claims special notice, however, by his exhibit of black walnuts. Your committee feel that great credit is due to Mr. Roy for bringing the question of the culture of this tree before this Association. The commercial value of both nuts and the wood, and the remarkable beauty of the tree, should ensure an effort to ascertain all the localities in which it can be successfully grown, and your committee feel that it is a subject which may profitably claim the attention of the Association.

Mr. H. B. Spotton shows three varieties of apples of fine quality.

Mr. Thos. H. McLeod, Dalston, a seedling winter apple, which must prove a good keeper.

Mr. G. C. Caston, Craighurst, a very fine collection of twelve varieties of apples.

Mr. E. S. Lally, Barrie, some prune plums, Flemish Beauty pears, White Doyenne and Bullam; two varieties of apples, all well grown, and six magnificent specimens of foreign grapes grown in a cold grapery. The varieties comprised Black Hamburg, Muscat Hamburg, Bowood Muscat, White Tokay, White Chasselas and Chasselas Musque—the last being most delicious.

Mr. Chas. Hickling, Dalston, took up a table almost to himself with five varieties of out door grapes, well grown, and two varieties of pears; the finest display of apples in the room comprising forty one varieties, four seedling apples without much promise, and a good exhibit of five varieties of plums—Glass' Seedling being especially good.

Mr. George Sneath, of Midhurst, made a nice exhibit of sixteen varieties of apples.

Mr. Wm. Haskins, Hamilton. Abyssinia—a black grape with large bunch and berry; quality being first class, clusters well set and hanging well; a very attractive grape. Delaware Seedling No. 1—Same size as Delaware but white, bunches set very closely, and berries fleshy and sweet; highly recommended. Delaware Seedling No. 2—Very similar to No. 1, but smaller though of better quality. Albino—Good sized bunch and berry, well set; very good quality, worthy of propagation. Seedling A—Black grape; good bunch, well set.

Mr. McLean, of Owen Sound, exhibited a remarkably fine pea, called the Murray. It grows from seven to ten feet high, and is wonderfully prolific and of delicious flavour.

Branch of well ripened grapes grown at Cape Elizabeth, Lake Rosseau, Muskoka, probably Salem. Name of exhibitor not given. This point is the farthest north from which anything exhibited comes.

Mr. E. Gilhooly, of Rugby, exhibited a remarkably fine seedling apple, very large, well coloured, crisp, acid; should prove a remarkable keeper. Very strongly recommended for propagation.

A prominent feature of the meeting was a unique collection of strawberry plants, chiefly of new varieties, brought by Mr. John Little, Fish Creek, near St. Marys. Mr. Little described these in a very clear and satisfactory manner, and completed the display by most generously distributing the plants among the members. The courtesy becomes greater when we reflect that Mr. Little is so universally known as a strawberry cultivator, and that many of the varieties have been sent him for trial before dissemination to the public by some of the most prominent growers on the continent.

Finally, your committee wish to acknowledge the courtesy of Messrs. Morgan & McVittie, florists, of this town, who made a most creditable display of palms and coleus. The *Yucca Incola*, valued at \$25, was exceedingly fine and received much favourable comment from those who attended the really splendid exhibit. Amongst the plants on the table were *Dracenus*, *Pahus*, *Musa*, *Crotons*, *Hibiscus*, *Begonia Rex*, and *Flowering Coleus*, many of which were new varieties of exceedingly brilliant foliage, and specially useful for table decorations for private residences. The room was tastefully decorated with flags and banners, and in this way Barrie did her best to honour the visiting fruit men who assembled at this meeting.

Twelve varieties of beautiful double dahlias were shown from Mr. D. W. Beadle's gardens, at St. Catharines, which reflected great credit on the grower.

Mr. Gilbert Wright exhibits a very nice selection of insects collected in the neighbourhood of Barrie, among them being very fine specimens of our largest moths, *Cecropia*, *Polyphemus*, and *Luna*; also several species of insects injurious to fruit, notably the plum sphinx, *S. Drupiferarum*; the grape sphinx, *Darapsa Myron*, and the Army Worm Moth. There are also a number of beautiful butterflies and moths, exhibiting every variety of tint and colour.

Respectfully submitted,

P. E. BUCKE, *Chairman*,
J. C. MORGAN,
T. C. ROBINSON,
WM. BOYS,
JOHN CROIL.

Mr. Roy, seconded by Mr. A. M. Smith, moved the adoption of the report. In doing so, he stated that he had walnut trees growing upon his place which had been planted thirteen years ago, and were now from twenty to thirty feet high. He thought it was very important that it should be made known that walnut trees could be grown in Ontario so far north. He found the tree perfectly hardy.

Judge BOYS.—I would like to state that black walnut is growing in the town of Barrie. In the garden of Mr. Lount there are three trees, which are among the largest we have in Barrie.

Mr. HUGH SMITH.—I have seen the walnut tree growing in southern Minnesota.

The report was adopted.

ELECTION OF OFFICERS.

The election of officers for the ensuing year was then proceeded with.

The President vacated the chair, and the Secretary assumed it and called for nominations for President.

Mr. LITTLE.—I feel great pleasure in nominating our old president, Mr. Saunders, for the reason that I know of no man more competent to fill that chair.

Mr. BUCKE.—I have much pleasure in seconding that nomination.

No other nominations having been made, Mr. Saunders was declared elected by acclamation.

The President then resumed the chair, and said : Gentlemen, I thank you very much for the kindly way in which you have manifested your renewed confidence in me on this occasion. Personally, I have felt that it would be better for many reasons if the Association had a change in its President. I am very averse to any one person having a monopoly of the office of President of an Association of this sort, and I fully expected when elected last year that that would be the limit of my term of office. But as you have so kindly and unanimously expressed a wish for me to continue in office another year I bow to your decision in the matter, again thanking you for your expression of confidence.

Mr. MORGAN.—As a member who for the first time has attended the meetings of the Association—I say it with great regret, but with a promise of amendment in the future—I venture to move the reappointment of Mr. Bucke to the office of Vice President, and I do it because I think one great desideratum in an officer of this society is, that he should not only work himself, but that he should make everybody associated with him work. I can bear ample and conclusive testimony to the possession of that quality by my friend Mr. Bucke.

Mr. Stephens seconded the nomination, which was carried unanimously.

Mr. Bucke.—I have to thank you very kindly for this expression of your good feelings towards me, and I hope I shall be able to fulfil the duties of second to the highly responsible office so worthily and ably occupied by our President.

ELECTION OF DIRECTORS.

The President appointed Messrs. Morgan, Beall, Little, Drury and Croil as a Committee to nominate directors for the ensuing year. The Association then adjourned during pleasure, to enable the Committee to meet and prepare their list. At the expiration of a short time the Committee presented their report by Mr. Morgan, nominating the following gentlemen :—

Section No.	1	John Croil, Aultsville.
“	2	A. A. Wright, Renfrew.
“	3	D. Nicol, Cataraqui.
“	4	P. C. Dempsey, Trenton.
“	5	Thos. Beall, Lindsay.
“	6	W. E. Wellington, Toronto.
“	7	Jas. Goldie, Guelph.
“	8	A. M. Smith, St. Catharines.
“	9	J. H. Parker, Woodstock.
“	10	A. McD. Allan, Goderich.
“	11	John Little, Fish Creek.
“	12	Hugh Smith, Sarnia.
“	13	Charles Hickling, Barrie.
		Auditors, { John Carnegie of Peterborough.
		{ Charles Drury, M.P.P., Crown Hill.

The report was adopted, and the above named gentlemen were declared elected, after which the Association adjourned until 2.30 p.m. On resuming at that hour, the subject of

ROADSIDE TREE-PLANTING

was taken up —“ What benefits are to be expected therefrom ? which are the best kinds of trees to plant ? when is the time to plant them ? ”

Mr. GOLDIE.— I suppose ornament should be the chief consideration in selecting trees for roadside planting. The maple is a very fine tree, suitable for all situations, easily obtained, and hardy ; I do not know but the Norway maple is as fine as any ; the common sugar maple is an excellent tree also. I am very partial to the elm for a moist loamy soil, where it succeeds best ; I think it is one of the handsomest shade trees that can be grown. The linden is also a very fine tree. In planting trees along the roadside the great mistake most people make is in planting them too close. When that is done, the whole beauty of a

tree is destroyed; they are unable to grow naturally, and they grow so close that they have to be pruned away, so that their whole beauty is taken away. I would advocate the planting of trees a considerable distance apart and allowing them to grow so that the natural character of the tree will be preserved. The catalpa is often spoken of, but I am doubtful if that is going to be a success here. If it proves to be perfectly hardy I think it will be a very beautiful tree; but the trouble is that it does not seem to ripen up its wood, so the young shoots are liable to be cut off in winter.

The PRESIDENT.—Do you find that to be the case with the *Speciosa*?

Mr. GOLDIE.—Yes; I cannot get its wood to ripen up before the winter. I intend this winter to take some of them up and plant them out again in the spring. I think, possibly, when they reach a certain age they may stand.

Mr. BEADLE.—I have had the catalpa for three winters, and it has never killed back with me.

The PRESIDENT.—My experience is that the extreme tips show a slight tenderness, but that is all.

Mr. BEADLE.—I must make one exception. I had some yearlings which last September were killed back by the early frost.

Mr. GOLDIE.—I strongly disapprove of planting the different varieties of poplar and willows. They are fast growers, but after you have them they do not amount to much; they are very liable to be attacked by insects, and they often sprout at the roots. Then there is the chestnut, but it has also that one defect that the young plants are liable to be cut off. The tulip tree is one that will stand. But I think that until the people become used to planting by the roadside they will have to try the commoner sorts.

The PRESIDENT.—What distance apart would you recommend?

Mr. GOLDIE.—That would depend a little upon whether shade was wanted for foot paths. In that case they might be planted closer. But for simple country roads, where there are no side paths or sidewalks, I think probably forty or fifty feet apart would be the proper distance. Some people object to having much shade on the roads in the spring, as it keeps the sun from getting at them and leaves them muddy for a considerable time.

Mr. T. H. PARKER, of Woodstock.—I was just going to mention that while the road is kept in a muddy, soft state, owing to too much shade, the wheels of waggons do a great deal of damage to the road.

Mr. ROY.—I think where trees are planted along the roadside they are usually too close altogether. Mr. Goldie thinks they should be forty or fifty feet apart; I think they should not be less than two hundred feet apart. Otherwise they will keep the roads wet and muddy for two or three weeks in the spring and the fall.

Mr. PARKER.—In my opinion that would be rather far apart; but in my district, in some places, the trees are as close as twenty-five or thirty feet.

Mr. ROY.—I think poplar trees, such as the *Abele*, are very poor trees to plant. Of course the maple is always a desirable tree for ornamental purposes, but it would be a good thing, instead of planting all trees of large foliage, to put in some Norway spruces occasionally; more ornamental trees you could not have along a roadside. But planting trees too close destroys the road.

Mr. CROIL.—On the whole, I think forty or fifty feet apart is the proper distance for roadside trees. I agree with Mr. Goldie that the elm is perhaps one of the best to have. It grows very quickly, and makes a very fine shade; the only objection to it is that its roots extend very far and destroy the ground in the neighbourhood for anything else. I suppose when you speak of the maple you include the soft maple, which is a very nice tree. I dare say some gentlemen have tried the Manitoba maple. I got some trees of this variety from Mr. Bucke. They grow remarkably fast and have a beautiful leaf. I think the Manitoba maple would make a very handsome roadside tree.

The PRESIDENT.—The principal objection to the Manitoba maple as a street tree is that it does not grow large enough. When I say that perhaps I am speaking a little too fast. I have seen these trees in the streets of Winnipeg, where they are perhaps ten or fifteen years old, and I would call them very small trees. They require to be planted twenty-five or thirty feet apart, and they have a tendency to branch low. The largest specimen I have seen was about twenty-five feet high. I do not think this tree is so pretty

as our soft maple. It has the disadvantage, they claim out west, of attracting a great many flies.

Mr. PARKER.—Is the linden or basswood not a good tree for a shade tree.

The PRESIDENT.—Yes, I think it is a beautiful tree. Another is the European mountain ash, a very pretty tree, which in some places grows dense enough to form a good shade.

Mr. PARKER.—The basswood would be excellent where there are large quantities of bees kept, because it furnishes a large supply of honey at certain seasons of the year.

Mr. HICKLING.—We have planted a large number of sugar maple trees on our roadside here, and they are doing tolerably well; but we consider the soft maple far superior to the sugar maple; it grows very thrifty, and forms a shade much earlier than the sugar maple. The basswood I consider a superior shade tree, and it can be got very easily from the woods. A large number of trees have been set out in this town and its vicinity, and the town council has authorized its officers to look after tree planting. It has also done something in the way of giving a premium to people who set out trees, if, after a certain time, they are growing and doing well. As regards evergreens, I do not know much about them for street planting; but I think they answer very well to be planted around our farm houses. The spruce especially is a very handsome tree. I think a great deal more might be done in the direction of roadside tree planting in this part of the country than has been done hitherto, and I trust the time will come when we shall see our main leading roads planted for miles with trees.

Mr. ROY.—How close would you put them?

Mr. HICKLING.—I think I would go with Mr. Goldie and say forty or fifty feet apart. There are some places where the trees have grown to a considerable size, and they do shade the road, and in the spring of the year when the snow is going off they leave it in a wet condition for some time. But they are very agreeable in the summer season.

Mr. MORGAN.—Here, the only thing that is planted out to any extent is the soft maple, and it certainly is a very beautiful tree, preferable to the sugar maple, because it grows much more rapidly. It seems to me, however, that we have lost a good deal by not planting alternately trees that grow slowly with those that grow rapidly. For instance, the planting of the poplar alternately with the maple would have a pretty effect. There are two streets in Buffalo which are very beautifully ornamented in that way; the trees were touching all along, but were not interfering with each other to any extent, and looking down the street the appearance of the tall spare poplar rising above the maple trees was one of the prettiest sights I have ever seen. This method secures variety with regularity, the two objects which we have to aim at.

The PRESIDENT.—There are three varieties of maples which should be kept distinct in the mind. There is the western maple, which is a very rapid grower. The soft maple is a much more rapid grower than the sugar maple, and I think a prettier tree; that is the one that bears the red blossom in the spring. The other, which is known in the west as the silver maple, is characterised by whiteness of the foliage on the under side. All of these three varieties are very good for tree planting. Then the Norway maple, mentioned by Mr. Goldie, should not be lost sight of. It is very dense, much more so than any of our maples; but if the western maple is nipped in it grows very dense, perhaps dense enough for a shade tree; however, neither it nor the Norway maple colours in the autumn like our own trees. Mr. Cuppage has handed me this question: "Should these trees be planted on both sides of the road, or only on one side?" If planted on the north side only, the difficulty suggested as to wet roads would be removed, but we should be deprived of one great advantage from trees, that is the advantage of shade. It seems to me, however, that any little inconvenience we may suffer from the moisture of the road in the early spring is made up to us many fold by having nice shady roads to walk and drive over in the hot summer.

Mr. ROY.—How would the sycamore do for roadside planting?

The PRESIDENT.—It is rather delicate. It succeeds in some places in London, but will not do for roadside planting.

Mr. MORGAN.—The width of our roads is such that the shade trees would not keep

them muddy to any appreciable extent. In the country the roads are wide enough as an ordinary thing to permit of the planting of trees on both sides without danger of preventing the roads from drying. To speak of another point, we should gain immeasurably from the planting of trees by the snow lying on the roads evenly. That is a point on which I can speak most feelingly. I drive on the average about eighteen miles a day in winter, and at certain times it is almost impossible to get about if winds have to any extent prevailed; but if I come across a farm where trees are planted, the difference is instantly perceptible—the snow lies evenly on the ground, and travelling is comparatively pleasant, while in other places the snow is banked up to from four to ten feet high, leaving other spots in the road absolutely bare. In some portions of exposed townships, such as Nottawasaga, it is absolutely impossible to travel sometimes for days owing to the state of the roads. On this account great advantage would result from the planting of trees.

The PRESIDENT.—What is your opinion as to the best time for planting?

Mr. MORGAN. I would plant in the spring, that is, ordinary trees, such as we have been speaking of. If you refer to evergreens, I have planted only very few of them, and know nothing about them. But maples, and hardwood trees generally, I would plant in the spring. I have found them to invariably succeed, while fifty per cent. of those planted in the autumn have failed. I see no reason why it should be so, unless, by moving the tree, you let the frost have greater access to the fine rootlets.

Mr. CROIL.—One consideration in favour of the sugar maple is that in a few years it makes a good return in the shape of maple sugar or syrup. I think we tapped seventy trees and made ten gallons of syrup. The sugar maple grows much more rapidly with us than the soft maple.

Mr. PARKER.—If you tap them very often you will find that in a few years they will be likely to be destroyed.

Mr. CROIL.—They are planted alongside of my own fence. One trouble we have with our trees, even though they are on our own grounds, is that the Telegraph Companies injure them very much.

Mr. CASTON.—My experience is that the sugar maple is by all odds the best shade tree in this country; it is hardy, and it is not difficult to get it to live. I have seen the sugar maple frequently planted out, and I have never known a tree to die. In one part of the country I travelled over, a line of sugar maples were planted last spring and not one died. The calculation is to use them for fence posts to string wires on after a little, and I think when that is accomplished, the place will look very pretty. With regard to tapping the trees for sap, I have had some experience in that, and I do not think it hurts a tree in the least when it reaches ten inches in diameter. A tree gets a tremendous top when growing alone, and will give us five times the quantity of sap that can be obtained from a tree in the woods, and its ability to overgrow any wound made will keep it from rotting. In making maple syrup, men do not make a big gash in the tree with an axe as they used to. They are more careful of the trees in the woods now. They find they can get as much sap by means of a small hole made with an auger.

Mr. CROIL.—Nine-sixteenths of an inch.

Mr. CASTON.—Yes, or seven eighths of an inch, and the maple tree has the ability to overgrow such a wound so as not to receive any injury. A gentleman in our village has a grove of sugar maples, which he taps every spring, and it does not injure the trees in the least. The black ash makes a very nice tree, but I would not ask for anything better than the sugar maple. The grove I speak of is on the grounds of Mr. Arthur Craig, of Craigvale. I know two trees, a red and a soft maple, which are about the same age; I remember when they were not higher than an ordinary fence, and the red maple has outgrown the soft maple and is the prouder of the two. The poplar I do not care for at all. I know a garden where there are a lot of these tall poplars planted, and for the last ten years they have not been able to grow anything in that garden.

Mr. ROY.—In taking maple trees out of the bush to plant, would you plant them as you take them out of the woods or would you stump them off.

Mr. CASTON.—I would stump them; and with regard to speed of growth, if a person would take as much trouble with them as with a fruit tree, and put a little manure about

them, he would get a rapid growth. But they make a wonderful growth by merely planting them in the sod and leaving them to grow.

Mr. DEMPSEY. If I were going to plant a tree for the amount of saccharine matter I could get from it I would plant basswood, and I would save all the fuel Mr. Croil speaks of by keeping some bees. I think there is no shade tree that we can derive so much profit from as the basswood. Next to that would come the soft maple; it blooms so early in the spring that our colonies of bees build up very rapidly indeed when they begin to gather honey and get a certain amount of pollen from the blooms of these soft maples. They make very pretty shade trees. I think as pretty shade trees as I ever saw in our part of the country were in a basswood grove. The original trees had all been cut away from the clearing except a few basswood trees that were left to grow, and the ground was kept covered with grass. I attended a picnic in this grove, and I can assure you our Sabbath School boys enjoyed a game of football under these trees very much, and I enjoyed half a day looking at them. I think the prettiest shade trees, however, that I have ever seen are the elms which are almost universally planted in the Eastern States. I have seen some trees standing on one side of a roadway which extended to the other side, and it is something very pleasant indeed on a hot day to have the privilege of resting under one of those trees. Such a pleasure is sufficient to pay for the trouble of planting a dozen of these trees. There is a road that I travel over a good deal in the summer which is almost devoid of shade trees, and it is very suffocating sometimes to have to drive for twelve miles along that road without having any shade at all; but towards the end of the journey, as the road approaches the town, there are a few elms standing, the branches of which nearly cover the road, and I have often been very thankful to be able to stand for a minute or two under those weeping elms. I would recommend the soft maple and the elm, and I would not despise the white birch. There is one objection to the hard maple; a borer gets into the tree and cuts his way around it, and the result is a dead top. I planted a number of sugar maple trees some years ago, and I think there is not one now living to day, while I planted some soft maple trees a year or two afterwards and they are all living.

Mr. PARKER.—Is it not an objection to the basswood that it produces suckers about the roots?

Mr. DEMPSEY.—Yes, but that is about the easiest way to propagate basswood—by picking them off and planting them where you want them to grow, and they almost invariably live without roots. The basswood is exceedingly difficult to transplant in the spring; but it is almost absolutely certain to grow if planted in the fall, a little earlier than the present time.

Mr. BUCKE.—Down in Ottawa we are losing a great many maples through the borer, and we find that the elm grows nearly twice as rapidly as the maple and makes a much finer shade. Objection has been made to the planting of trees along the roadside, that they shade the road and keep it in bad condition; but I think we have come to a time in the history of this country when we can afford to gravel or macadamize our roads, and I do not think that should be considered a valid objection to planting shade trees. I am satisfied that farmers who plant shade trees along their roadsides will get an increased price for their farms when they want to sell. I know that people coming out from the Old Country and wanting to buy farms often fix their eyes on a farm that has trees along the roadside. I think there is great advantage, both in beauty and profit, in planting our roadsides with trees.

Mr. MORGAN.—I was told of a certain avenue that Mr. Smith planted some time ago. I want him to describe it, but he won't pay any attention to me. Perhaps he will obey your command, Mr. President. (Laughter.)

Mr. A. M. SMITH.—I did not know that my friend Mr. Morgan would be quite so communicative. The trees were the Mazzard cherry trees. I planted them partly for ornament, and partly from selfish motives. They make a very pretty shade tree, and at the same time serve the purpose of keeping the birds from our better varieties of cherry trees.

The PRESIDENT. I planted an orchard once, and put in a row of Mazzards, intending to be very liberal to the birds, but I found that they flew from those and attacked

the others. While on my feet I may say that the hard maple is not the only tree that is attacked by borers. There is a borer that attacks the soft maple. It is the larva of a small winged moth, and has caused the death of some trees. It does not bore a large hole in the tree, perhaps not larger than a silver dollar; but several of these insects working together will sometimes succeed in girdling a tree. I mention this to show that the soft maple has its disadvantages as well as other trees. I think the basswood is as free from insect enemies as almost any tree we have. Those who grow elms, especially in the United States, experience a great deal of trouble from insects that devour the leaves—some native and foreign insects, and especially the canker worm. There is scarcely any tree that has not some drawback; but these things we have to put up with.

MR. STEPHEN. — It may be of some benefit to give my experience of a district that has not yet been touched upon, that is, the city of Toronto. The favourite shade tree there is the horse-chestnut. It does not grow too tall, and it has a very fine top when in foliage; and when in bloom for about two weeks in the spring it presents a very beautiful appearance, and its perfume fills the whole air. The greatest objection to it perhaps is that when the nuts are ripe the boys are likely to injure the tree in getting the nuts down. They cannot eat them because they are bitter, but they like to collect them for playthings. The soft maple is very extensively planted. There are also a good many hard maples, which present a very beautiful contrast to the chestnut when their foliage takes on its brilliant colouring in the fall. The elm is also extensively planted, but the greatest objection to the elm in the streets of Toronto is that the school children strip it of its bark, and then of course it bleeds to death. We have also a number of the Lombardy poplars. They are not a tree that I regard with very much favour for the city, though they would make a very fine avenue in the country. The mountain ash is planted to some extent, and it is a very nice tree: its berries make a very pretty effect. With regard to the distance that trees should be planted apart, the average distance in Toronto is about eighteen feet, which is the limit fixed by the by-law on the subject. That is perhaps rather close, because when the trees reach, say eight or ten years of age, they become a little crowded; then they have to be pruned, and sometimes a tree has to be taken up so as to give the others room. Twenty-five feet apart would be about the right distance for a city. I think it is better to have variety in our shade trees, not too much of one kind. In Toronto the people plant the shade trees at their own expense, but immediately after a tree is planted in front of their property it becomes the property of the corporation. If I should cut a tree after planting it I should be liable to be prosecuted.

MR. HUGH SMITH. — I am very glad this important subject has been taken up here, and I am glad to hear the hard maple so well advocated. It is certainly the superior maple of the two for general purposes. The black walnut is a very important tree, and probably as a timber tree the best of all. The white ash has not been mentioned; it has a nice top. As to distance, for elms, hard maples, and other large topped trees, forty or fifty feet is the proper distance apart, but there are some smaller trees, such as the blue beech, which might be very successfully used in some cases for roadside planting. The European ash I do not think is hardy enough for all parts of the Province, but it is a fine tree, and it has not the objection that applies to many of our native trees of dropping its leaves early in the fall. In the west we have the buttonwood tree, which makes a very good shade and is very easily planted; but it is of no value after it has done duty as a shade tree, although it is sometimes sawn into boards.

THE PRESIDENT. — It is used by the cabinet-makers very much.

MR. HUGH SMITH. — Yes, but it is a poor, weak wood, and I think I could raise a foot of black walnut about as easily as a foot of it. The tulip tree is too difficult to handle, otherwise it is perfection as a beautiful tree, and a valuable wood when the tree is done with. The juneberry is a very handsome tree when it blooms in the spring; it will grow to six inches in diameter. The beech is one of the prettiest ornamental trees we can have, but I am afraid that walking over the roots injures it. I would advocate the extensive planting of the walnut, which is a very valuable tree for timber when it has served its purpose as a shade tree. We should not altogether lose sight of utility when planting shade trees; and in this view, the walnut, the soft maple, and the basswood are all valuable.

Mr. BEADLE.—Would not the ants be an element in the matter? Would not the boys break the trees to get them.

Mr. HUGH SMITH.—No, I think not. The ants drop off very easily when they get ripe.

Mr. BEADLE.—The tulip tree, which has not been mentioned, is planted to a limited extent in the streets of St. Catharines, and it makes a very pretty shade tree for towns. It is not so extremely making out in its early life, with its scottish, and I think on that account perhaps preferable for towns to some others. The trees are very clean and smooth, and exempt from the attacks of insects to a great extent. The only insect which I have found on it is the larva of the *Pezomachus*. The tree is exceedingly attractive in appearance. I have never known any person to examine it but would admire it. I should like to see the tulip tree tried more generally. It is quite hardy in our district.

Mr. ROY.—I have four or five trees of that variety in my grounds, but they have not grown to a greater altitude than twenty-five feet. The tree has a beautiful leaf, of a peculiar form, the upper part being as it were cut off.

THE CANNING BUSINESS.

"Would a canning factory be likely to pay in this part of the country?" was the next question discussed.

The PRESIDENT.—What would you say as to that, Mr. Morgan?

Mr. MORGAN.—No.

Mr. BEADLE.—Mr. Morgan's answer is perfectly correct, and I will give the reason for it. I understand that you can sell strawberries here for eight cents a quart, and raspberries for from ten to fifteen cents. It is utterly useless to start a canning factory here when you can sell your fresh fruit at those prices. When your fruit comes down to three or five cents a quart, then a canning factory might make some money.

Mr. MORGAN.—That is it exactly.

Mr. ROBINSON.—What is the best price that the canning factories can pay?

Mr. BEADLE.—From three to four cents.

Mr. A. M. SMITH.—The Canning Company paid ten cents a quart this summer in St. Catharines for raspberries, and sometimes for strawberries.

Mr. MORGAN.—There is not a sufficiently large area of fruit here to afford material for a canning factory. I suppose it is true everywhere that supply and demand have a reflex influence upon each other, but anyone who should put up a canning factory here would have to demand a long time before he would get the supply. There is not likely to be a canning factory established in this district on any scale for some time, for we can dispose of all the fruit we now grow here, and my experience is that we could dispose of three times as much as we now grow. I think the possibilities of the growth of small fruit in this section of country are almost boundless. There is nothing that pleases me better than to hear of or see anyone going into fruit-growing. We are fifty years—exactly twenty-five—of the possibility of there being a greater supply than the demand. Each year opens up new markets, and increases the demand in each place. In point of fact, the demand increases in a sort of geometrical ratio, and I do not think a canning factory would pay for some time. An evaporating factory might. Two or three years ago there was a great storm here, and tons of apples rotted and were given to the pigs. I saw that in driving through the country; and if I could have got an evaporating apparatus at that time I would have made good use of it. Farmers told me that immense quantities of apples were then fed to their cattle and pigs, because they could not get rid of them. Fruit that is slightly worm-eaten ought not to be brought to market, and as each year passes on it will be less likely to be received in the market, and that kind of fruit evaporates as well as anything else.

Mr. ROBINSON.—I think the last gentleman may be mistaken in his estimate as to the time required to make the supply reach the demand. I remember some years ago strawberries were from a York shilling to twenty-five cents a quart, but when they came to be more generally grown I saw people hawking them about for from six to seven cents.

Mr. BUCKE.—Canning factories do not depend entirely upon fruit. Tomatoes are

very largely canned. I think people ought to consider also the large demand that will arise for canned fruits as the North-West fills up. It appears to me that canning factories in Ontario must certainly be on the increase.

MR. CASTON.—I am very glad to hear Mr. Morgan's statement that there is not likely to be any glut in the market for some years to come. He is the pioneer of the strawberry business in this county. But I believe a canning factory will, in the future, be one of the institutions of this county, because I believe that small fruits are going to engage the attention of farmers more generally when they get their eyes open. I think a canning factory would be a grand institution at any time that there should be a glut in the market; but, as Mr. Morgan says, there is no need to apprehend that for years to come. One gentleman spoke of the North-West. I was there in the spring of 1882, and I paid thirty-five cents for a small basket of strawberries; I do not think there was a pint in it, and they were more than half rotten. If fruit is so scarce as that in the North-West, I think it will give us a good market. I had also to pay five cents for a Northern Spy apple, and ten cents a pound for seedlings that we would not think worth picking up. With regard to evaporators, there is a kind made now which I think would enable each farmer to have one of his own; and they would be very useful here, where we are subject to equinoctial gales that play havoc with our orchards.

MARKETING OF SMALL FRUITS.

The next discussion was on "The marketing of small fruits—what are the best packages; the best methods of packing; means of transportation, and best markets?"

MR. A. M. SMITH.—I can hardly afford to compete with everybody else and give a heaped up quart of berries, and have them ship theirs in pint-and-a-half baskets. I use the ordinary baskets, and I use ordinary board crates; but for a great deal of my fruit I use what is called the basket crate, holding twenty-four quarts, or the small baskets which are called quarts. These crates can be obtained for about \$12 a hundred, and there is this advantage in using them, that if you lose a crate it is not a very great loss. The great trouble in marketing small fruits is to get your crates returned, particularly if you ship to distant markets. We find that these small packages will often sell to great advantage, as they contain just enough for family use. They come in very handy, too, when you have a choice sample of fruit, but have not enough to fill a crate; and buyers, when fruit is high, will often pay more for a sample crate of twenty-four quarts than they would if obliged to buy a large crate of sixty quarts. In this way we often get a little better price for the basket crates than for the larger ones. They ship very well by express. They are covered by a thin board cover, so that you can set one on top of another. In regard to the best means of transportation, if you are not near enough to your market to take your fruit yourself in a spring waggon, or if you cannot ship by water, you should send it by express, so as to get it to market as soon as possible after it is picked. But in our section, where large quantities of fruit are grown, we have a good deal of trouble in shipping by express, because the express agents are not very careful in handling the fruit; and as the express trains do not stop very long at a station the fruit is often hurriedly thrown off, one crate on top of another, so that it reaches its destination in rather poor shape. I think there should be a combination of fruit growers to devise means for better methods of shipping fruits—perhaps to induce our railway companies to run regular fruit cars, as they do in some sections of the United States. The express company has a monopoly of the fruit-carrying business in Canada, and it is often a difficult matter, particularly in seasons when we have a large crop of fruit, to get it to market in good shape. The best markets are sometimes a difficult thing to determine. For small fruits Toronto and London are my principal markets. Toronto is the best market for me, because I am within ten minutes' drive of a boat that will land my fruit in Toronto without any shaking up. I have a man at the wharf to receive it, and I usually get a fair price for it. When the market is crowded in Toronto I ship to London, which is a very good market for small fruits, particularly strawberries. I have no doubt that fruit growers in this vicinity find some of the small towns around here preferable to these larger markets.

Mr. MORGAN.—Does it pay to separate the different varieties of strawberries?

Mr. A. M. SMITH.—It does in some markets.

Mr. MORGAN.—The Crescent and Wilson, for instance?

Mr. A. M. SMITH.—Not the Crescent and Wilson perhaps, but the Crescent and Sharpless, or the Crescent and Bidwell, or some of the larger and finer varieties. You can always get a fancy price for fancy fruit in such a market as Toronto.

Mr. ROBINSON.—Selling one's own fruit in one's own market, and shipping to a distant market, are different things and require different treatment. Has any gentleman tried going to the city market and handling his fruit himself, and having some trusty person at home to ship it to him?

Mr. A. M. SMITH.—I think I can tell you just about how that would work. In all these large cities there are commission men who, when they see a stranger come in with a lot of fruit, stand back and say, "He has to sell it at some price; we will just wait." There is a ring among the commission men in these large cities who act together in that way. The fruit growers of the Niagara district, having a great deal of trouble in disposing of their fruit satisfactorily through these men, got together and formed a joint stock company, and we have since employed an agent of our own and put him in Toronto, and another one we put in London. We consign our fruit to them, and they sell it and deposit the money in a bank to our credit. That we think the safest way of disposing of our surplus fruit. We require our own agent to give security.

The PRESIDENT.—Do you get as good a price in that way as under the old system?

Mr. A. M. SMITH.—At first we had some trouble in getting a good agent. These commission men tried at first to crowd our man out of the market; but we persevered, and people got to understand who he was, and that in getting fruit from him they were getting it directly from the growers, and they commenced to patronize him. The consequence has been that this year our business has increased very much, and our man has had all he could do. We pay our agent a salary. We also sell on commission for other parties through our agent, charging the same commission as any one else, and dividing the proceeds.

Mr. ROBINSON.—We tried grading our berries for the local market. We put in two rows instead of three, and heaped up the boxes; but we have had to go back to the old system. I do not think it pays to grade your fruit for the home market, but I think it does for the city market.

Mr. BEADLE.—I have had very little experience in this matter. One fact, however, I can give you—that these city markets are as liable to fluctuation as any other market. You can go to Toronto sometimes and buy fruit cheaper than you can in St. Catharines, and a man makes a great mistake who overlooks and neglects the markets around himself, and slips wholly to the distant cities.

Mr. LITTLE.—That is the experience of all fruit men I am acquainted with either in Canada or the United States—that you should seek to develop the home markets that are within five or ten miles all about you.

Mr. DEMPSEY.—Our market is Montreal principally. It is true we sell considerable in Belleville, but the Belleville market is usually overstocked. With regard to packages, we tried the baskets which Mr. Smith recommends, but we found that they would not suit the Montreal market. People did not like them; they claimed that the baskets got packed too tightly together, and that most of the berries arrived in Montreal in a crushed state. Then we tried a cheaply made box, similar to what is used in Michigan. It is a box made of veneering nailed together, and calculated to hold two dozen small boxes of berries; and those boxes did not suit them, from the fact that most of the berries are sold on the train by the commission men, and they must open every package. People insist on seeing the fruit before they buy it. The case we prefer holds thirty six quarts, so arranged that the baskets will admit of being heaped up. We generally put an imperial quart of berries into each basket by heaping them up. We then put in a lining that holds the baskets close together, with slats that admit of the baskets remaining heaped up. The lid is slatted in the same way, so that when it is closed down the baskets are closely packed, and yet the berries are not pressed. We find that our berries packed in that way command a cent a quart more in the Montreal market than those packed in

any other way. We have brought the size of our packages down, from seventy-two to fifty-four quarts at first, and now to thirty-six quarts.

Mr. MORGAN. —What arrangement do you make of the boxes to get thirty-six?

Mr. DEMPSEY. —Three tiers of twelve each. With respect to shipping, we ship invariably by express, and by arrangement with the Express Company we have the privilege of placing these cases on the train. They usually allow us to detain the train ten minutes at Trenton to load our berries, but they will not wait half a minute after the time has expired. We place the boxes on the train and they are not touched until they arrive in Montreal, when our own commission men take them off; so that our berries arrive in almost as good condition as when they leave us. To make sure that everything was properly done, I slipped down to Montreal on the sly, and watched our berries as they went down. In the season when the berries are most abundant the Express Company usually furnish us with a car that runs one day from Montreal to bring our empty cases back, and goes down the next day with our berries, so that they have only to hook the car on to the express train when it passes Trenton; we load it up during the day while it is standing on the siding.

Mr. CASTON. —What is the cost of the crate that holds thirty-six quarts?

Mr. DEMPSEY. —I think about forty-five cents.

Mr. A. M. SMITH. —Have you any trouble in getting them returned?

Mr. DEMPSEY. —No. We did at one time, but we do not now.

Mr. A. M. SMITH. —The Express Company are willing to return the crates free, but the great difficulty is to get the dealers to return them.

Mr. DEMPSEY. —We have one difficulty. The linings of our cases are generally lost, and we sometimes get linings that do not fit. We provide for that by getting a large surplus of linings made, so that there will be no danger of our running short. They are made of pine wood, a quarter of an inch thick.

Mr. BUCKE. —How thick is the box made?

Mr. DEMPSEY. —The bottom three-eighths of an inch, the sides three-eighths, the top five eighths, and the ends three-fourths. The box is bound at each end with light hoop iron.

Mr. MORGAN. —I should like to know what kind of basket is generally employed, or is believed to be the best. We got some of the Dishboro baskets from Buffalo, but they were a nuisance, not on account of their size, but because we could not pack them into the crate: they were so wide that we could not get eighteen into a layer. We use the old style of crate, made out of pine, that holds fifty-four baskets. We make the crates ourselves; they cost about sixty cents each, complete. The trouble of getting them back is very great; but we have at last hit upon a plan which is very successful, although it involves a considerable amount of labour. We keep a daily record of the crates, which are all numbered on the outside, so that we know where every crate is. Then we tell our customers that the crates are worth a dollar each, and that they are sent to them on condition that they shall pay a dollar for every crate not returned. Even with these precautions we have lost some crates, and we have not thought it prudent to enforce the rule; but our plan results in bringing the crates back to us very promptly. I cannot urge too strongly the necessity of cultivating the home markets. The year before last our crop of strawberries was about 22,000 quarts, and next year, under similar conditions, it will be 50,000 quarts or more; and I am certain we shall not send any to Toronto unless perhaps the very large ones. I said a few moments ago that I thought it would be well to discriminate as to size. I say so because dealers have at different times offered me various prices as high as twenty-five or thirty cents a quart for choice berries; but even then we have not sent them just because we prefer to command the market north of Toronto; and we find as a general thing, when we come into competition with berries from Toronto or from beyond that point, that we can command the market largely, because we can supply berries which have been freshly picked and not handled much. That is after all the main point, I think; and that is where, in supplying the local market, local growers have such an advantage over those from a distance. As to heaping the baskets, that is easily done, but it depends on the way the slats separating them are made. We have simply three slats, rather wide, and three-eighths of an inch thick, for the baskets to sit upon. The

cover has similar pieces attached to it, so that when it is shut down they fit exactly where the strawberry baskets join. I think you could take a crate packed in this way and throw it about considerably without removing the boxes. The slats are made with three eighths of an inch pieces and on eight pieces. We fill up right over the edges of the basket, and we can give you good measure in that way. There are two matters that I feel the importance of. Mr. Smith has indicated one, and that is that we should have some more accommodating mode of transportation than we have at present. We are absolutely at the mercy of the Express Company. Then, I cannot help thinking that if the Fruit Growers' Association took a united stand on the question of the tariff, they would be able to do something. I have tried in vain to obtain the slightest reduction on this line. This year, on that very account, we have shipped largely by freight, and the dealers say that where we can reach them in a reasonable time, the berries are just as good sent that way, as those sent by express. As to separating the varieties, I am very glad to hear it is not important. We have not done so, and we find it almost impossible to do so. When you get in 3,000 quarts in one day, and have to arrange to send them away, it is rather difficult to keep the varieties separate.

Mr. CASTON.—What are the dimensions of those packages?

Mr. McVITTIE.—Two feet nine inches long, eleven inches wide, and eleven inches high.

Mr. ROBINSON.—How do you fasten your crates?

Mr. MORGAN.—Hitherto only by the patent fasteners; but we have begun putting the screw in.

GRAPES FOR THE COUNTY OF SIMCOE.

The next subject taken up was, "What grapes can be successfully grown and ripened in the County of Simcoe, on what soil should they be planted, what aspects are to be preferred, what cultivation should they receive; should they be protected in winter?"

Mr. CASTON.—I am just a beginner in grape culture, and my experience of that industry in this district is therefore limited. My vines are very young, but they are doing very well, though I have only a few bunches of grapes from them this year. I have seven or eight varieties. The principal one is the Concord; then I have two or three of Rogers' Hybrids, the Early Victor, Moore's Early, the Vergennes, the Worden, the Brighton, and the Champion. I have only one vine of the Champion, and I do not want any more. As to what varieties can be successfully grown, that can best be answered by Mr. Hickling, who has been in the business for a long time. I have not fruited any grapes yet to any extent but the Champion and the Brighton. The latter I do not find a very great grower or cropper so far. It ripened very well one year, but another year it was cut by the fall frost. My soil, being a warm, sandy loam, I should say would be very suitable for grapes, with proper manuring; but I am satisfied that grape vines to grow successfully in this district will have to be covered in winter. I cover mine with straw, and let snow fall on top of the straw. I have never had any trouble from mice. The grape vines left on the trellises have killed back to the very roots. Sometimes, in spite of the weather prophets, we have a very cold dip here; the thermometer has been known to go down 38 degrees below zero. As to varieties, the variety that will ripen the earliest is the best for this county. Early frosts, which I suppose are not encountered so much in other parts of the country, sometimes in this county kill off the vines before the fruit is ripe; so that the earlier we can get our grapes to ripen the better. With regard to trellising, I intend to use a trellis which was suggested by some person, I think in the *Horticulturist*. He says he lays scantling along the ground, and places slats on them, and in the fall of the year he takes the props away and lays the vines down on these slats, and then covers them with straw; then, when the snow goes off, he raises the vines up and puts in the props, and the vines are in the same position in which they were before.

Mr. HICKLING.—My experience in grape growing is not large. Still, I have endeavoured to raise a few grapes. I have perhaps twelve different varieties, including three or four vines of the Burnet, some of Moore's Early, some of Rogers, the Concord, the Brighton, and some others which I cannot think of at the moment. My plan is to always cut the vines back to about two branches, and to lay them down and cover them in winter.

I used to cover them with straw, but I began to be afraid of mice, and last winter I laid sods on the vines, and then covered them over with earth. They have not been damaged in any way by mice, and they are thriving as well as it is possible for vines to thrive. They are growing well, and those that are bearing are producing very good grapes. With proper care I think we can grow grapes here successfully unless in such exceptional seasons as the one we had last year. We can always command a good price for them—from ten to twelve cents a pound. I would advise those who have not yet raised any grapes to try a few vines, and see what they can do in this part of the country.

The PRESIDENT.—Have all the varieties ripened this year?

Mr. HICKLING. Yes, the whole of them have ripened. The Brighton is only now turning, but I think a few days will ripen it up nicely.

Mr. CUPPAGE.—I find pea straw a much better material than grain straw for covering grape vines. It attracts moisture, and therefore becomes heavy and keeps its place better.

Mr. CASTON.—It would not be so liable to be blown away either.

Mr. HICKLING.—It was pea straw that I tried in the first place.

Mr. HARRIS.—I am only growing three or four vines. I have not laid them down in any way, and the frost has not affected them. I have the Concord, the Prentiss, and two other varieties. I am living on a hill, which may account for the fact that the frost does not affect my vines so much as it does those growing in valleys. I cut back the new wood to about three buds.

Mr. CASTON.—Do you pinch the ends of the vines in order to ripen up the wood?

Mr. HARRIS.—Yes, and I think it is important not to let the tops grow too much, in order to make the wood larger and more hardy.

A MEMBER.—When do you uncover the vines, Mr. Hickling?

Mr. HICKLING.—Not before the first of May.

Mr. ROY.—My custom is to prune the vines in the fall and lay them down without putting anything on them at all, except a little wood to keep them down, and as we have plenty of snow that is all the protection they need. The Concord is the earliest variety I can grow. The Massasoit is almost as early. The Agawam ripens pretty well, and I consider it one of the best flavoured grapes we have. I also ripen the Lindley, the Wilder, and the Delaware.

Mr. CROIL.—In the matter of grapes I think we, in Stormont, are pretty much on a par with our friends here, and I have come to the conclusion that ripening grapes is a very precarious business with us. But when Mr. Harris is able to ripen them without covering in a county where the thermometer goes down to 38 below zero, I think I shall have to reconsider my conclusion. I do not think we have the temperature quite so low as that, but I have frequently seen it down to 25. We cover our grapes with a slight covering of earth. As your vines grow older you will find it more difficult to turn them down. Some of our vines are hardy and early enough. The Champion is the earliest. The Hartford I am very fond of: it has been much abused, but I never knew a man who got a bunch of Hartford grapes that did not want another: and it always ripens. The Delaware ripens always, I may say, but it has not succeeded very well with us lately; we do not get as good bunches as we used to.

Mr. BEADLE.—Give the vines some wood ashes and they will do better.

Mr. CROIL.—I will try that. The Massasoit is a beautiful grape, and it ripens about the time of Moore's Early. The Jessica I have, but it has not fruited yet.

The Association adjourned at 6 o'clock until 7.30. On resuming at that hour—

Mr. BEADLE.—If nobody has tried the Lindley in this district I would recommend that it be given a trial. It ripens with the Concord, or very little before it, and is a very valuable grape. In my opinion it is the best of Rogers' hybrids: but for some reason or other the men with hobbies have not taken it up. The Salem was taken up by some who fell desperately in love with it, and it was disseminated very widely, but it has been found to be very subject to mildew in many localities and to ripen unevenly. I would not advise anyone to try it here.

The PRESIDENT.—Mr. Hickling has grown the Salem and ripened it.

Mr. BEADLE.—If anyone wishes to try it I shall not say a word in objection, but I

have not found it to succeed well about St. Catharines. I spoke last night of the Massasoit as another Rogers' grape which I would try here, because of its early ripening. Its quality is almost as good as that of the Agawan, which is saying pretty nearly as much as you can say of a Rogers hybrid grape. The Wilder is a favourite grape with many, and ripens about the same time as the Concord—a little after the Concord with us, I think—and I do not see why it should not ripen here. It is a very showy, large black grape, and grows in good bunches. Indeed the grapes look a good deal like plums. I know a gentleman at Hamilton who grows grapes for market, and the Wilder is his favourite grape. He takes pains to thin out the bunches and to put a wire around the vine in order to stop the downward flow of the sap and to promote the growth of the berries. So, he gets twenty or twenty-five cents a pound for his grapes, whereas, if he left them to their natural growth, he would not get perhaps more than fifteen cents a pound. That plan, however, deteriorates their quality—makes them insipid. The truth is that by checking the downward flow of the sap the berry becomes filled with water, and its flavour cannot be so good because it is diluted. I was glad to hear some gentleman say that he had ripened the Brighton at Craigvale, twelve miles north of this. If it ripened there I should say that Barrie would be a good location for it. You have some very good locations about here for growing grapes, well sheltered from bleak winds and the soil I should think was well adapted to grape culture. The slopes of your hills look to me to be well drained; I have not seen any that appear to be springy, and consequently wet and cold. So I believe you have a favourable location. With regard to the Brighton, I would only emphasize what I said last night, that you will all be pleased with it as a well flavoured, pleasant grape. The Worden will ripen a little earlier than the Concord, and it may be to your advantage to try it a little more than it has been tried. I would also recommend you to try the Linden when it comes into market. I was surprised with it when I first tasted it; I supposed I was eating the Concord, and if you like the Concord I think you will like this, and it ripens fully two weeks earlier than the Concord. It comes just after Moore's Early.

Mr. CROIL.—How about the Hartford?

Mr. BEADLE. The Hartford is one of the grapes I do not know what to make of. In some years it ripens early, and in other years the Concord will catch up to it. I see that Mr. Croil likes the Hartford. I do not. It is an unpleasant grape to my taste, and I can get other grapes that I like better, for instance the Brighton, and that ripens before the Hartford. The little Delaware ripens about as early as the Hartford with me. My soil is a sandy loam; perhaps on clay soil the Hartford would do better.

Mr. CROIL.—Ours is inclined to clay.

Mr. BEADLE.—The Delaware I believe would ripen here. I presume you are all acquainted with it. The only point to be specially remembered in connection with the Delaware is that it is very apt to be overloaded. The vine is not of that strong constitution that can bring to perfection a heavy load of fruit. If you let it overload, its fruit will not get ripe enough to show its true flavour. You have to thin it out; and do not be afraid to thin it—do not leave over two bunches on a branch.

Mr. SPOTTON.—I know that the Delaware ripens very well here. Where I was living sometime ago the Delaware was growing and yielded some very fine flavoured fruit.

Mr. BEADLE.—I am troubled with the Burnet. I cannot get such bunches on my vines as I have seen here. I think it must be somewhat fastidious about soils.

Mr. CROIL.—I rooted out my two vines, as they were good for nothing. They produced small worthless berries.

The PRESIDENT. My vines, while young, produced those small berries; but when they got older they got over that habit, and they now produce berries of very fair size.

Mr. PARKER.—I have a vine that I got from the Association, and it produces just such small berries as Mr. Croil speaks of.

Mr. BUCKE.—The Burnet grows very well with me.

Mr. BEADLE. I must admit being disappointed in the Lady. I thought it was free from foxiness, and had a delicious flavour; but it is not. I found the vine of feeble constitution, and very slow in growing; but now that it bears fruit, I do not consider it a bit better than the Martha, although it is earlier, and it is almost as strong of that foxy

flavour as the Martha. To some persons that flavour is not objectionable; if not, they will probably find that the Lady will ripen here. The Martha ripens a little before the Concord in my grounds. It is a small berry, averaging a little larger than the Clinton, in medium sized bunches. I think the vine is one of a good, strong, healthy constitution; I have not seen the least sign of mildew about it. The berries do not ripen quite so early as those of the Lady.

Mr. BUCKE.—How about the Croton?

Mr. BEADLE.—It mildewed with me, and all the vines died. I think the Martha would ripen here. It is a little musky in flavor, but if you do not dislike that, you will find it sweet. The next on my list is Moore's Early. I think it is worth trying, although it is no better than the Concord; it ripens a long time before the Concord, however. I found the vine hardy enough to live through that terrible winter we had a year ago last winter, when so many grape vines were destroyed; but a neighbour of mine lost about a hundred vines of it. I believe it is no more liable to be killed than the Concord. The Pocklington I do not think you will make a success of here. It is a late grape with me, although some persons insist that it is early. I believe it would be too late for this climate. I doubt whether the Prentiss would ripen here. I would not throw it away if I had a vine, but I would not pay a big price in order to get one. The Duchess is a white grape which I think ripens a little earlier than the Prentiss. I say so with some hesitation, however, because both of my vines of that variety are young. The Duchess reminds me a good deal of the Sweetwater in the berry and the bunch, and I think it may perhaps be a seedling of the Sweetwater. If that is true, we may probably find that the vine will be subject to mildew; but in point of quality I prefer the Duchess to any other white grape ripening in its season. Still, I am afraid we are not going to make a success of it in our neighbourhood. The Worden you are trying here, and I think you know as much about it as I can tell you. The Amber Queen I have not fruited, and I have had contradictory reports about it. William C. Barry, son of Mr. Patrick Barry, nurseryman, of Rochester, speaks favourably of it; but how early it is I do not know. They say it resembles the Brighton in many respects. The Ann Arbor is another new variety which I have not fruited yet.

Mr. LITTLE.—I got it last spring from a certain gentleman, and I wrote to him lately asking him what I should do with it. "Well," he said, "the best thing you can do with it is to put it into a flower pot and bring it inside in the winter time."

Mr. BEADLE.—It was originated in Michigan by a man named Woodruff. The August Giant, I fancy, is a rather coarse, worthless grape. I spoke of the Early Victor last night. I have seen samples of it here, so that I presume you have been able to form your own opinion of it. It is a small grape, but ripens early and crops enormously. The Jefferson I have not fruited. Mr. Dempsey brought some here on exhibition. I would ask him what he thinks of it.

Mr. DEMPSEY.—I would not plant any more of the Jefferson. This is the first year that I have had any fruit from it. It may do better when the vine gets older. I would not like to decide either in its favour or against it yet.

Mr. BEADLE.—The next grape on my list is the Jessica, which originated in my neighbourhood, and on account of its high quality I thought it worthy of dissemination. It is on trial—that is all I can say of it. I am very fond of it, and I never saw any person who tasted the fruit that did not like it. To what extent it will thrive up here I cannot tell. The only person who has any considerable number of vines of it is William Reid of Port Dalhousie, and he says he has no difficulty in getting from ten to twelve cents a pound for all he can raise. I would ask Mr. Dempsey if he has tried the Lady Washington.

Mr. DEMPSEY.—It is very inferior in size of berry, because it mildewed last year. This year there was no mildew on the berry, but there was on the foliage.

Mr. BEADLE.—My impression is that neither the Jefferson nor the Lady Washington will ripen here.

A MEMBER.—The Iona is on exhibition.

Mr. BEADLE.—If they can ripen the Iona here they can take the whole list of grapes, because the Iona is the last grape that ripens with us, unless it be the Catawba.

Mr. GOLDIE. I would like to ask Mr. Beale if he has experimented in letting grape vines grow freely instead of trimming them. Mr. De Courtnay used to lay down a rule that in outdoor grapes did better if they were allowed full scope to grow, than they would if they were put in too closely.

Mr. BEADLE.—I have experimented enough to come to this conclusion that it is a mistake to prune our native grapes as much as we prune our exotic grapes, that they will not bear such close pruning. On the other hand, I believe it is as great an error not to prune them at all. I have allowed the Isabella to grow up into a tree in order to make a sort of arbor of it, and I have to admit that I never got better grapes from the Isabella than I got from that vine; I had to climb up a ladder to get the berries.

Mr. GOLDIE.—In New York city I was asked to go to see an Isabella vine. It was eight or nine feet high on the trellis, and covered a space as large as this room—about 25x35 feet, and it was loaded with grapes to the extent of hundreds of pounds. I think that wherever the Isabella grows you will have better results by letting it run—without pruning, but without pruning it so closely as is commonly done. I think some of the grapes of that class will ripen up their fruit much more evenly and will yield a larger crop by that system.

Mr. BUCKE.—If it is found that the wood dies on the trellis in this locality, I would advise all people to cover their vines in winter; I am perfectly certain that they will be well repaid for their trouble. In the fall of the year the vines should be pruned pretty short and cut free from the trellis. The best material for a trellis is cedar posts and No. 13 galvanized wire. As winter begins to close in, or about the time of the first frost, it is a good plan for two people to go to work, one with a digging fork to press the vines down, and another with a spade to throw some earth upon them. In this way two men will cover several hundred vines in a day. It is not necessary to put much earth on the vines, and this will be found to be the very best protection against frost that can be used, especially in a climate like that of this district, where the snow does not lie as it does with us. Earth is much better for a covering than straw, as it is altogether probable the straw would blow off. It is only necessary to have sufficient earth to cover your vines, and they will be sure to come out in good condition in the spring. About the third or the last week in April is the proper time to uncover them. As they do not start out in leaf much before the middle of May, they will escape the customary early frosts. I am perfectly certain that any person who once tries covering his vines with earth will continue the practice. Of course a southern exposure insures a greater amount of sunshine, and if the vines are well covered in winter the sun will not strike them so as to injure them. If the Brighton can be grown here I think you can grow almost any grape. It ripens about the same time as the Concord, or it may be a little earlier. If you can grow the Concord you can grow almost anything, except the Iona and the Isabella. I would recommend the Champion, Moore's Early, the Victor, the Amber Queen, and the Brighton. The Amber Queen is a little larger than the Delaware, though it does not set its fruit so closely, and it is the earliest ripening red grape we have in Ottawa. I cannot speak with certainty as to its bearing qualities, as my vine has only fruited a couple of years; but I do not think it is as heavy a bearer as the Brighton. But it is one of the nicest grapes we have, and if it will grow here, I would advise you to have it. Even before it is ripe it is eatable. I consider the Brighton for a general purpose grape the best any person can grow. It fruits very heavily, and is of good vigorous growth.

Mr. ROBINSON.—I think as we go north we shall find a great variation in the relative time of ripening of most varieties of grapes. I was surprised to hear several gentlemen speak of some of the Rogers varieties ripening with the Concord, or later than the Concord. With me they ripen rather earlier; even Rogers No. 4 ripens earlier than the Concord with us in Owen Sound. So does the Agawan. In some seasons the Concord succeeds in ripening, and sometimes it does not. The Massasoit with us ripens nearly as early as the Champion, and the Lindley is only about three days behind the Massasoit. If the Lindley had only the persistent thrip and mildew proof foliage of our native grapes, I should regard it as the best black grape on the whole list. The berries of the Massasoit are a little larger, but I do not like it so well. The Concord is rather late for us. We

prefer the Worden and Moore's Early. The Worden does not begin to colour as soon as the Concord, but it is ripe as soon as it does colour; the Concord takes a longer time in ripening. In some seasons the Worden is nearly two weeks earlier than the Concord in ripening, and in other seasons nearly a year, for the Concord does not ripen at all. My Concord was not at all ripe when I came away, and I suppose they will not ripen this season, while the Worden began to ripen two weeks ago. It is a larger grape than the Concord, and I like its quality better. Moore's Early with us begins to colour a week or ten days before the Worden, but it takes a longer time to ripen, perhaps as long as the Concord; it is not fit to eat for some time after it turns black, while the Worden, when it becomes dark red, is just beginning to ripen. I put the Worden ahead, just because, while it is not more than three days behind Moore's Early, it is superior in quality and a much better grower and bearer. The Lady has been spoken of. I have fruited it two or three seasons, and I like it very much; it ripens nearly as early as the Champion, but it is foxy, like the Concord. I have the Pocklington, but it was not ripe when I came away. The Niagara has fruited with me for the second season, and I am very much pleased with it. It was cut with the frost, as were all of our grapes this year, but it ripened with the Worden. Spring frosts are our bane about Owen Sound. There is a gentleman at Owen Sound who has had a great success in growing his grapes on a stone pile. He has stoned his piece of land, and has thrown the boulders in a heap, and he has planted his grape vines about ten feet apart on each side of this stone pile. The land slopes slightly to the north; and on that stone pile the Agawam and the Lindley, and the Massasoit and the Delaware and the Eumelan are immense. He does not protect his vines in any way, but just prunes them and leaves them. I suppose our climate in Owen Sound is peculiar. We do not find it necessary to cover our grape vines; it is sufficient to throw them on the ground, although mine generally remain on the trellis. I have not fruited the Early Victor. I have seen it fruited, but I am not satisfied with it; it is rather small. The Jefferson has not fruited with me, and I find it a little tender in winter.

Mr. DEMPSEY.—The Jefferson, in my experience, is a poor grower; when I showed it, I showed it in its purity, just as I had grown it; I only brought one bunch, and I only left two: so that people will admit that I was exceedingly liberal in bringing one-third of all I had. There are several varieties of grapes which I think would succeed here, judging by what has been done in this section of the country. I was never more astonished in my life than I was a short time ago, when I visited Mr. Graham's grounds in Ottawa. I expected to visit a place where it was not possible to grow any but the very earliest varieties, but to my surprise some of the varieties which I could not ripen successfully I found on Mr. Graham's grounds perfectly ripe, and that in the month of September. I concluded that not merely latitude, but soil as well, had a great deal to do with the maturing of grapes. Mr. Graham's soil is a sort of shaley or slaty soil, with a southern aspect. The place where I succeeded in ripening grapes earliest has an eastern aspect and is fairly protected from the north. Some varieties of grapes have matured very early in that locality, while other varieties have failed. One of the latter is the Concord. On that slope it is generally behind the Burnet, considerably so this year, and the berries are not much larger than ordinary Delawares.

Mr. ALLEN.—Do you not think the Concord is running out?

Mr. DEMPSEY.—I never was a great friend of the Concord, but when it is well ripened it is a very good grape, and it is so much cultivated that I do not like to oppose it. The Champion has been a very profitable grape with me this year. When it was ripe I said to my son, who does the marketing, "I want you to cut these Champion grapes and take them to market." "Champion grapes! Do you suppose people are fools enough to buy these things?" "Never mind," I said, "take them along." He took them, and he sold them wholesale for twelve and a half cents a pound; and all he had to say was, "I am glad I didn't have to eat them."

Mr. SPOTTON.—How do you account for the fact that people buy them?

Mr. DEMPSEY.—People buy grapes just as they do calico—from the appearance.

Mr. A. M. SMITH.—Do they ever buy them a second time?

Mr. DEMPSEY.—Oh yes. Those parties buy them to sell again, you know. Any

person who likes the Champion and wants a grape that follows close after it, cannot do better than to take the Hartford, which is a little better in quality. It brings nearly as much as the Champion on account of its earliness in ripening.

Mr. BECKE. Isn't Moore's Early earlier than the Hartford?

Mr. DEMPSEY. Not with me. I do not think very much of Moore's Early. I planted half a dozen vines of that variety, and at the same time fifty vines of the Worden; and three of the Worden vines produce more grapes than the six vines of Moore's Early. The Lady ripens with Moore's Early, but does not produce any more fruit, and neither produces a sufficient quantity of fruit to make it an object to cultivate them. The Brighton is a decided success; it produces a beautiful berry, and the flavour is such as I am sure no person would object to. But you should avoid getting it too ripe; when it is a little on the green side it is better, being quite sprightly in flavour. I do not think any one can command the Brighton too highly. It sets well every year, matures well, and ripens well, and if marketed immediately it brings fancy prices. The Lady is a profitable grape with me. It produces fine bunches, is a good grower, and its fruit matures sufficiently early—along with the Brighton—with us. I think it would grow here. I have an Agawan vine that occupies about fifty feet of the trellis, and we usually pick about two bushels of grapes from that one vine each year. It will not apparently bear to be cut away so much as some other varieties. We have to give it plenty of space and allow it to make a great deal of new wood, and in pruning it we cut away the old wood chiefly. It moults a little, but very little, and sulphur applied early in the season protects it from mildew. We have not had mildew on it for two or three years. The Delaware with us almost fills the bill. We thin it a little, and then it produces very fine, close bunches, and the berries are much larger than it produces when not thinned—I think twice as large—and they ripen early, long before the Concord, and almost with the Worden. The difference in time of ripening between the Worden and the Concord is a good deal greater with me than it is with Mr. Becke. I think any person who is able to give grape culture a little care and attention is likely to be more successful with cultivating the Delaware than with cultivating almost any other variety. The Rochester and the Monroe are two very good grapes which I think would mature their fruit in this district. Perhaps my system of trellising would not be a disadvantage here. We set our posts twenty-four feet apart. Our grapes are planted twelve feet apart, and the rows twelve feet apart, and the posts are set out alternately. We string two wires on the posts, one five feet, and the other two and a half feet from the ground, and we train a new shoot to run along each wire; then we allow the shoots that come out from the present year's wood to hang down, and they grow towards the ground. This seems to prevent too great a growth of the plant and it does away to a certain extent with the necessity of pinching, and I find that where the vine is hanging down we get better bunches than we do when it is trained upward or horizontal.

Mr. PARKER.—I want to offer a word of warning to any gentlemen who may now be growing grapes under glass, or who may contemplate doing so hereafter, to never burn sulphur in order to get rid of mildew. You may think this a superfluous warning, but Mr. Rykert, a few weeks ago, almost completely destroyed his entire crop by burning a small piece of sulphur in order to kill the thrip and a little mildew. About three years ago I completely destroyed the foliage of my vines by burning a small quantity of sulphur in myinery. The next morning the leaves were all shrivelled up as if they had been touched by a severe frost. I have never seen this warning given in any publication, and it may be the means of saving some one's grapes at a future time.

THE ONTARIO APPLE.

Mr. BEADLE. —You remember, Mr. President, you brought to this meeting some of Mr. Arnold's apples, called the Ontario. I am told by Mr. Cutter that he has fruited the Ontario, and he speaks very favourably of it. It has been said that the Ontario will not do well so far north as this, and I want to get his testimony for it.

Mr. COTTER.—The first year that the Society sent it out I had bad luck with it; but last year, by attending to the tree, I got eight apples from it. This year I think it bore twelve of as fine apples as I ever saw, both in size and shape. It is growing in front of my place where I planted it four years ago. I look upon it as the best winter apple we have in this part of the country.

Mr. HICKLING.—I exhibited some Ontario apples at our agricultural show here.

Mr. BUCKLE.—The Ontario apple appears to be quite hardy in Ottawa. I fruited it this year for the first time, and it seems to be a very fine apple.

The PRESIDENT.—With regard to its fruitfulness, I picked over a bushel from a tree planted seven years ago last spring, which I believe is more than any tree of any other variety produced in the same length of time; and it is an excellent cooker.

After passing a vote of thanks to the Mayor and Corporation and the people of Barrie for their attention to the convenience and comfort of the Association during its meeting, the Association adjourned *sine die*.

REPORT OF THE VISITING COMMITTEE APPOINTED TO ATTEND PENINSULAR FAIR AT CHATHAM, 1884.

At the request of your executive we visited the above fair on the 7th and 8th of October, for the purpose of gaining any information we could that might be of service to the Association, as well as offering such assistance as we might be able to give to exhibitors and others in the correct naming of the fruits on exhibition.

On our arrival at the grounds we were very courteously received by Messrs. Glenn and Tassman, the president and secretary of the Society, who did all in their power to assist us, as also did other directors with whom we became acquainted during our visit.

From some cause or other the display of fruit was much smaller than we had anticipated—altogether below what might have been expected in a show of such size and general excellence—so that our opportunities for making our mission a success were proportionately lessened. We found the judges, Messrs. Alex. Goulet, of Ouevry, and H. W. Westland, of Ridgeway, to be men in every way qualified for the position, and in full sympathy with us and with the general work of our Association. In the absence of Dr. Searcy, of Chatham, the third judge, we were asked to assist these gentlemen in making the awards, which gave us a favourable opportunity of getting intimately acquainted with the exhibits, and of learning a good deal about the fruit-growing capabilities of the country around, especially the adjacent Lake Erie shore which is quite famous for its apple and peach orchards and vineyards.

The apple exhibit contained samples of the highest excellence in all the leading market varieties, Northern Spy and King of Tompkins Co. being noticeably fine. A dish of beautiful Ribston Pippins was shown, and some fine Swaars. Spitzenburgs were noticeable for their absence, as well as almost the whole class of what may be termed amateur varieties. Large specimens of Snow were shown, but not free from spots, and this was almost the only amateur variety there. There were some seedlings shown, and some local varieties. Varieties suitable for shipping took the entire lead, almost to the exclusion of all others. The naming was not without faults, there being misnamed dishes of such kinds as Spy, King and Baldwin. Many of the dishes were unnamed, there being no rule requiring correct naming, a matter we think which deserves the attention of the directors.

Pears were poorly represented, the May frost having almost entirely cut off the crop along the river, while on the shore which escaped the frost we were informed scarcely any trees exist. The specimens shown were mostly knotty or marked with abnormal russet patches, attributable to the frost. There were dishes of Clairgau, Seckel, Duchess, Buffam, W. Nelis, and two or three other varieties not recognized by us.

Quinces of the Orange variety were shown, both beautiful and large, exceeding anything we ever saw before. The soil here seems peculiarly adapted to this fruit. We conversed with one grower whose crop this year is upwards of 20 barrels.

Of peaches only one sample was shown, of good size, but poor flavour, probably a seedling. This fruit is largely grown on the lake shore. We met a Mr. McGuigan, of Buckhorn, who had quite a good crop, in this year of general failure. He has five acres in peaches, but his crop was on one acre of the Hale's Early, six and eight year old trees, from which he picked over 200 bushels and which realized him upwards of \$800, while his neighbours had scarcely a peach, and he himself none to speak of from any other variety. He attributes his success to the favourable location of his orchard, it being protected by an adjacent ridge.

The show of grapes was limited both as to number of dishes and range of varieties. All were, however, of the highest excellence, proving that grape growing is a success here. The bunches of Concord and Salem were enormous and thoroughly ripened, while Delaware, Agawam, Martha, and two or three others, were as fine as we ever saw.

Trusting in your forbearance for whatever of failure in the fulfilling of the objects of our visit, which may have been due to our own inexperience,

We have the honour to remain, gentlemen,

Your obedient servants,

T. C. WHEATLEY, Sarnia.

B. GOTT, Arkona.

RENFREW FRUIT-GROWERS' ASSOCIATION.

The summer meeting of the County of Renfrew Fruit Growers' Association was held in the Town Hall, Renfrew, on Saturday afternoon, June 7th, 1884.

There were present:—A. A. Wright, President; D. Halliday, Vice-President; and Messrs. H. Airth, R. McLaren, A. Bromley, D. Frood, John Johnston, A. J. Lindsay, A. Forrest, T. Cole, A. Cole, John Stewart, Horton, F. Kosmack, Jas. Martin, W. Boer, D. Bane, M. McDermid, Jos. Knight, Alex. Stewart, Chas. Mayhew, and W. E. Smalfield, Secretary.

This attendance was not as large as had been expected, but as everyone present had more or less to say, the meeting was a lively and interesting one.

The first business of importance was the passing of a vote of thanks,—moved by Mr. Johnston and seconded by Mr. McLaren,—to Mr. E. Morden of Niagara Falls South, for his liberality and friendliness towards the Association in presenting the members with plants of the Raby Castle Currant and Honey Locust.

On motion of R. McLaren, seconded by Mr. Airth, the President and Vice-President were appointed as a delegation to wait upon the Directors of the South Renfrew Agricultural Society, at its meeting on Saturday, 14th inst., to see if they will grant \$10 to farther extend the premiums for fruit displayed at the annual Exhibition, if the Fruit Growers make an appropriation of the same amount for the same purpose.

The reports of those present who had received some of the Russian Apple trees in the Spring of 1883 were then received. Very few had been winter-killed; and many of the same variety had done so well and had come so successfully through the past hard winter, in greatly varied situations, as to leave but little doubt of their value and perfect hardiness.

Mr. Wright said his Moore's Arctic Plums had all died during the winter. This was interesting information to the many who have had out \$1.00 or \$2.00 a piece on a number of these trees during the present spring. The Glass Seedling, however he had found perfectly hardy. He also referred to the blue plums on Mr. Richard Humphries' prop

erty in Ross. The trees were hardy, and the fruit, he believed, was abundant and good; but as to name he could give no information.

Mr. Johnston said he believed these trees of Mr. Humphries came from Leslie's nurseries thirty-three years ago. The stone in the fruit was very small, -the smallest plum stone he thought that he had ever seen.

Mr. Halliday reported that he had covered his grape-vines with brush last winter, and they were nearly all killed. The few that he had covered with earth were not killed then, but had been injured by the late frosts after they were uncovered.

Mr. Airth covered with pea-straw and snow, and the vines had come through the winter all right. Covering with earth was probably the surest plan, but it was a big job if there were many vines.

Mr. A. Forrest found that the leaves of the wood made an excellent covering.

Mr. T. Cole had used both leaves and straw, and found either sufficient.

Mr. D. Frood used potato stalks. They did well, and did not rot on the vines.

Mr. Johnston covered lightly with earth, but did not make a mountain over the vines. For protection from late frosts he covered with woollen blankets; anything cottony was worse than nothing.

Mr. J. Stewart (Horton) covered with chip manure.

Mr. James Martin and Mr. D. Blane used coarse manure.

Mr. Allan J. Lindsay asked how he should treat his newly planted grape vines this summer.

Various members answered - to let the vines grow at will till fall, then trim down to the two strongest arms, leaving four buds on each.

Not many of the members cultivate strawberries yet, the wild fruit being still plentiful in the district. But Mr. Wright reported that he had the most satisfaction from Wilson's Albany, planted on the matted row system, in rows two and a half feet apart, with the plants six inches apart in the rows. The Col. Cheney, a large berry, he planted in rich ground, in hills a foot apart. He mulched with straw and sawdust, but preferred the latter.

Mr. Halliday said he grew what was called the Marrowfat, -sweeter and more luscious than the Wilson.

On a discussion upon the unexplained apple tree blight of last season, Mr. Halliday said it was his idea that it must be due to electric currents. It had been noticed that it was mostly the crabs in this district which were affected.

On the question of how the apple trees stood the winter, Mr. Forrest said all his were doing well, with the exception of the Twenty Ounce, which were gradually dying out. Mr. Martin's were all doing well. Some that had killed out in previous years were all right this time.

The McIntosh Red has been killed pretty generally this season, and will have to be relegated to the "doubtful" class. It will probably do all right in certain favoured situations.

The Hastings is dying off, too. The Canada Baldwin promises well, and as it flourishes on clay soil it will probably be one of the fruits of this district.

Mr. Forrest thought situation or elevation had more to do with success in fruit-growing than the soil.

Mr. Lindsay opened up a lively discussion on a much debated question by saying that in planting his trees this spring he had mixed sand with his clay land.

The majority of those present seemed to be of the opinion that a mixture of sand and clay made a soil which baked harder than the clay itself. Some suggested that variation in the quality of either sand or clay might make different results possible with different experiments. Others, who were of the opinion that a pure sand and clay mixture was poor and binding, thought it would probably be all right if plenty of manure or vegetable matter was mixed in at the same time.

The President again at this meeting requested the members to make a note of the date when their grapes first commenced to colour; and when they fully ripened.

Mr. Forrest had on exhibition a basket of his seedling apples - which will hereafter be known by the name of Forrest's Winter Seedlings. They were perfectly sound, and

all the members had an opportunity of testing their good qualities. A fruit which keeps so long, and grows on a perfectly hardy tree, is a valuable addition to the fruit list of this northern section.

The following report on new fruits of the county was read at the meeting :

The past season having been very unfavourable for apple growing, very few desirable new specimens have been on exhibition here. At our fall show (1883) McLachlan's Seedling carried off the first prize. It is very attractive in appearance, of fair size, uniformly round, and symmetrical in shape, thin in skin, with a very tender white flesh. In flavour it is a mild sub-acid, and when in its prime quite juicy and good in quality. It is not a good keeper, the 1st of November being as long as it will last.

At our winter meeting two very fine specimens of winter fruit were on exhibition. One of them, Forrest's Seedling, a production of our own county, is desirable in size, greenish yellow in colour, very slightly tinged with red, giving it a sort of Russet appearance at a short distance. Its skin is somewhat thick and tough, but its flesh is very white, crisp, and tender. It has a mild sub-acid flavour, and a peculiarity of taste not easily described. It is, however, good in quality, and in consequence of its being a long keeper, and the tree reported to be very hardy, it should be more carefully examined and reported on again next season. Smith's Seedling, kindly sent by Henry S. Evans, Esq., Secretary of the Montreal Horticultural Society, was grown by Mr. John Smith, of Lachine, on the Island of Montreal. It is reported to be an excellent keeper, preserving its soundness and flavour into the month of May. It is of good size, oblate in form, greenish in colour, but suffused with red where it is exposed to the sun. In flavour it is mildly acid, white and tender in flesh, and being a good keeper, it should prove a very desirable apple if the cold-resisting powers of the tree are sufficient to withstand our climate. Scions will likely be procured for distribution among the members of our local association.

WINTER MEETING.

The winter meeting of the Fruit Growers' Association was held in the Town Hall, Woodstock, on Wednesday and Thursday, the 30th and 31st of January.

The meeting having been called to order on the morning of the first day by William Saunders, Esq., of London, the President of the Association, and the minutes of the last meeting having been read by the Secretary, D. W. Beadle, Esq.,

The PRESIDENT.—The programme of this meeting, as drawn up by the Secretary, certainly surprises me a little by its novelty. Besides several other innovations he has introduced a President's address at the beginning and a President's address at the close of this meeting. While I do not propose to undertake a formal address, I thought perhaps a few words might profitably be presented to you at this opening session of a suggestive character. The practical parts of the work of the Association should, on all these occasions, be brought prominently forward; our chief aim being to help fruit growers in every possible way. Some of our farmers need information even yet as to the profitableness of fruit growing; for the products of the orchard, if well managed, may be classed among the most profitable of crops. Many need also to have their faults corrected. There have

been many errors in tree planting in the past. Too many varieties have been set out, and improper varieties have been chosen. In many instances too large a proportion of fall fruits have been planted; hence in an abundant season the markets are soon glutted, and as fruit of this character will not keep prices are apt to fall below a remunerative point, and disappointment is the result. We must learn to meet such difficulties as these. We must endeavour to overcome them as we find them. This particular one may be got over in a short time by top-grafting the trees with late-keeping varieties; or it may be remedied by the establishment of fruit evaporators, whereby the surplus stock may be reduced to such condition as will admit of its being sold at a later period of the year, and, if desired, shipped to any part of the civilized world. Every part of the apple may be made a source of profit, and nothing should be wasted. At a recent meeting of fruit-growers in Michigan, where I had the honour of representing this Association, a gentleman in the course of his remarks, gave some statistics with regard to the profitability of apples, and he said that even the cores and skins were used at his factory, and the profit from these amounted in a short time to a hundred dollars. I asked him at the close of the meeting what use was made of the cores and skins, and he assured me they were very valuable in making apple jelly. On returning home I instituted some experiments in my own house, and found this was correct. In making apple sauce, too, in order to have all the flavour of the apple the skins and cores should be stewed separately, and the resulting liquid poured into the apple sauce. This adds very much to the richness and flavour of the sauce. Not only are we concerned in the selection of suitable varieties, but equally also in their subsequent care. How often do we see a young orchard of thrifty trees almost destroyed by being nearly smothered by a crop of grain, the rampant growth above excluding the air so necessary to the vital processes of the tree, while the thickly interlacing roots beneath the soil suck up the moisture and absorb the food which should have gone to nourish the trees! All this is wrong. That man would scarcely be considered sane who would expect his cattle to thrive while he withheld from them the food necessary for their sustenance, and at the same time pursued a system of crowding which scarcely permitted the animals to obtain air enough to keep them alive. But this sort of treatment the poor trees often have to put up with much to their detriment, and if they do not *persist* in thriving in spite of adverse circumstances the blame is thrown on the nurseryman, or the variety is pronounced tender or unsuited to the soil. What we want, gentlemen, is more common sense practice in these particulars. Grow root crops or vegetables among your trees. The stirring of the soil needed for the hoeing and weeding will benefit the tree, the ground will be kept clean, and the manure necessary to produce a good crop of roots will also promote the growth of the trees. Winter protection is also important. Trees are often pronounced tender which with a little more care would merit a different verdict. As an animal needs a little extra bedding in very cold weather, so a tree—particularly a young tree where the roots are near the surface—needs a mulch of some sort to protect it. For this purpose nothing is better than well-rotted barnyard manure, applied to a depth of four or five inches and spread so as to cover an area of three or four feet on each side of the tree. Such an application serves the double purpose of protection and food. We want also to give the knowledge needed by the amateur in village, town and city, whatever may be his calling, so that, whether his lot be small or large he may know what is best to put in it so as to yield him the greatest satisfaction and pleasure and the largest returns. All these and many other things our Association endeavours to provide for. You will see that our programme covers many of such points, and I am sure that during their discussion much valuable information will be elicited: for we have with us, among our directors and members, many observing and thinking men who are constantly peering into the secrets of nature, and are always ready to give the public all the information at their command. In conversation a few days ago with a gentleman who had recently returned from a long sojourn in Japan, he told me that the Japanese had marvellous skill in the cultivation of flowers, and that they produced by artificial means wonderful development of size and colour. If you bought one of these and planted it the stimulus it had received by the treatment given would enable it to sustain its character for the season; but the next year the flowers would be much smaller; and within two years the probabilities are that they would have so much deteriorated that you would regard them as of little worth.

I asked him how it was done. This, he said, it was impossible to find out, as the Japanese flower grower could not be induced to divulge such secrets for any consideration. Fortunately we have got beyond this state of things, and our great stipulation is to convey to others any information we may gain which is likely to be a benefit to them. Fearing that in our programme some things may be omitted on which you would like information, the directors have introduced a new feature at this meeting known as "the question box." Any persons present wanting information on any subject within the scope of our Association are invited to request to hand their questions written on a slip of paper to the Secretary, and the first half hour of each session will be devoted to discussing and answering such questions. I trust that as many of you as desire to do so will make free use of the question box. The questions will be taken up in the order in which they are handed in, and if more are presented than can be answered within the half hour the remainder will be reserved for the first half hour of the following session. We should like at all our meetings to have a full house, as we want to interest the great bulk of the community in our work. Everybody likes fruit; let them come and learn what is best to grow, and how best to grow it. Nor are we limited in our discussions to fruits; our society embraces also within its scope vegetables, forest and ornamental trees, shrubs and flowers. Bring along with you then your friends and neighbours, your wives and the members of your families, so that we may have a large audience, and thus have an opportunity of infusing into many minds some additional love for the beautiful and the good in nature.

Mr. BEADLE.—There is one point that I am glad you have touched upon in your remarks, namely, that this meeting is open to all the world. I have been asked on more occasions than one—I have been asked since I have been here—if this meeting is open to the public. Why, certainly it is; but people do not seem to have got the idea yet that it is; they seem to think we are a sort of secret council.

Mr. DENTON.—With reference to your remarks as to making use of the cores and skins for the purpose of giving a flavour to apple sauce, I would ask whether you also save the seeds for the same purpose?

The PRESIDENT.—The seeds of the apple, of course, go in with the core, and if you are not careful a specimen of the codlin larva will also go in sometimes. I enquired particularly of this gentleman in Michigan how they did with regard to that, and he said "Oh, we let them all go in together; it all makes jelly!"

Mr. DEMPSEY.—In our part of the country we are doing considerable in evaporating apples, making jelly and canning fruits; and I have visited several establishments where they saved the skins and cores; and in one case they had more than those to add to the flavour of the jelly. The peelings dropped on the floor; there was strong curiosity among the people to see this new evaporator running; and when they came to look over it they would walk over the peelings. These were swept up once an hour, and manufactured into a preparation for making pies with. And they used not only the cores and peelings in that way, but also the little apples. I have seen more filth in the evaporation of apples and in the preparation of the jelly and of the material for pies than I have ever seen in anything else. In running a drier a great deal of heat is required; but if a man gets too much he can fill one of these places with peelings, shove it in, and that will lessen the heat for the time and enable him to save the whole batch of apples that may happen to be in the drier. In that way, therefore, the skins are a source of profit. In our part of the country also they have some process by which they are going to keep cider, and they are now preparing to manufacture all these things into that article. The cores, peelings, and little apples are all thrown into the machine; they pass through three, four, or five places where pressure is put on them; little streams of water are constantly running in; and this is constantly passing out as pure cider. In another way they manufacture vinegar. The canning process is a very interesting one—I believe more profitable than evaporating or the manufacture of jelly. A party told me last year I think I told it once that it was over eight dollars a barrel to can Northern Spy apples; but the actual report is over sixteen dollars. I thought half that amount was enough to make people question the statement. They can those apples so nicely that after having been kept a year I have seen them as fresh looking as one of those apples on the table would be if it

was peeled. They had kept perfectly in the can. They just peel the fruit, quarter it nicely, put it in the can, and solder it up perfectly tight, then it is thrown into a vat with water, steam is turned on, and it is heated for so many minutes. The apples keep so perfectly in that way that you can ship them to any part of the world.

The PRESIDENT.—My object in mentioning the use of the cores and peelings was to show that there was a value in all parts of the apple; and if they are used in a cleanly and proper manner there can be no objection to them. The seeds contain a good deal of mucilage, and that adds to the value of the jelly obtained from apples. I may say that the same remarks apply to the quince. Some of the members may not know that the seed of the quince is the source of the bandoline or mucilage which ladies have been using on their hair for years past to keep it in proper position. This mucilage is yielded very abundantly by quince seeds; yet the extensive use into which it was brought a few years ago by the fashion to which I have referred had the effect of putting the price of quince seed up in the market to five or six times the usual figure.

Mr. BEALL.—I was much pleased to hear your remarks generally, but especially those respecting the making of apple sauce and the cooking of apples—not as a factory product, but as a home produce. But there is one nice point that you omitted, that is, the colouring matter contained in the peelings. This has been made use of in my house for a length of time. Of course you are aware that some apples, especially when they are cooked, are quite colourless; but by using the peelings in the way you speak of you retain all the colouring matter which is in them, and this adds much to the richness of the appearance of the sauce.

APPLES.

The first topic for discussion was “Are we warranted by our own conditions and the present demand in growing apples largely, and if so what kind shall we grow?”

Mr. GOTT, on being requested to open the discussion, said:—I have not grown apples largely for the market, but in our western counties the fruit from the young orchards is being brought into the market; and the growth of it is found to be very profitable. The apples that we grow in those counties are of a superior quality, large-sized, beautiful in shape, finely coloured, and they can be put on the market at a remunerative price. They are not only marketable at home, but they are marketable abroad. They have gone as far as England, Ireland, and Scotland; and they are marketable there at remunerative prices. As for the varieties that are particularly suitable for these purposes, I may say that perhaps one, the Northern Spy, is, on the whole, the best. It has every quality that would recommend it to the purchaser as being a first-class apple in every respect. It will bring a large price in the English market, and so in any other market. We have also the King of Tompkins, an excellent apple. A great fault with it appears to be that it is a shy bearer. The Baldwin grown in this county is an apple of superior quality. It stands first-class in the list as a marketable fruit. It has a beautiful colour. I think I have never seen handsomer apples than the Baldwins that were on our trees this last year. The Golden Russet is very highly spoken of, and it is an apple of great value. Its flesh is very superior. It is remarkable more particularly for its late-keeping qualities, and for that reason our buyers will seek it wherever it is to be found. It has proved to be profitable also on account of its early and abundant bearing. It is an annual bearer, too, with us, whereas the Baldwin will only bear its crop every other year. I consider that some of our summer apples are valuable, especially the Red Astrachan; perhaps that is the most valuable for market purposes of all our summer apples. There are some of the autumn apples that are very valuable; for instance, the Duchess of Oldenburg and the Gravenstein.

Mr. A. M. SMITH.—I am not an apple grower, but I know a little something about apples for market. I have been engaged quite extensively for the last eight or ten years in buying for market. While agreeing in the main with Mr. Gott, I would differ with him with regard to a few varieties. I bought some 1,700 barrels of apples in his neighbourhood last fall, and I may state that I never bought a finer lot of apples than I got

there. The Northern Spy, which he has mentioned as the best, I would not put at the top of the list for value as a market fruit. I would head the list with the Baldwin. The Spy is a valuable apple, but it is a little tender for shipping, being a thin skinned apple; and it shows bruises much easier than the Baldwin and some other varieties. In certain localities I have no doubt the Golden Russet is a very profitable apple, particularly in some of the northern parts of our province, but its value is far below that of the Baldwin or Greening in most of the markets of the United States. I shipped some the past season to Boston, and while I realized five dollars a barrel for King of Tompkins County I could not get more than three or three and a-half for Golden Russet. There is no question in my mind about the profitability of apple growing in this section of Ontario, and in the section bordering on the lakes. I think Mr. Gott mentioned the Red Astrachan and the Duchess of Oldenburg as profitable varieties, and put the Red Astrachan at the head of the list for profitability. I would reverse his order, and put the Duchess of Oldenburg first for profit. There is one apple that, I think, has been altogether too much neglected among cultivators, and that is the Primate. For an early apple I know of no better in sections in which I have seen it grown. There are several varieties of fall apples that are very valuable. Some of them do as well, I have no doubt, as our winter varieties. Following the Duchess of Oldenburg I would recommend the Gravenstein. The Colvert is another very good one. The Jemmeting is a very productive apple, and is usually very free from spots or disease, but it does not bring quite as high a price as some others in the market.

Mr. BUCKE.—What about the Snow apple?

Mr. SMITH.—The spot is too bad in this part of the country for it to be any good whatever.

Mr. GOLDIE.—Have you grown the Early Joe?

Mr. SMITH.—I have never grown it myself.

Mr. GOLDIE.—That is one of the finest flavoured apples I know.

Mr. SMITH.—It is very fine flavoured, but as to profitability it would not pay.

Mr. BUCKE.—I was going to ask Mr. Smith if he could give us some idea of the profit of an acre of apples or an orchard of apples.

Mr. SMITH.—That depends largely on cultivation and varieties, and season of course. I am quite sure that an acre of apples, well attended, in any good locality, and the varieties the right ones, will pay double what any grain crop will that you can grow upon the ground.

Mr. BUCKE.—And at the same time there would not be the same labour, I suppose.

Mr. SMITH.—With less labour.

Mr. BEADLE.—I would like to ask you about the Gravenstein apple. I have never yet seen an orchard of it, and I have wondered that I have not. I had three or four trees of it in my orchard, which, as you would naturally expect, is more of a specimen orchard than a market orchard. There was necessarily a surplus of apples, and I sent what we did not want to use at home to Montreal; and I realized not after paying freights and commissions and all the et ceteras that the commission men can find to put on four dollars a barrel. It is an apple of good size and good appearance; and the quality of the Gravenstein is first class. It is one of the highest flavoured of our autumn apples. I would recommend to persons to try it in their localities for an autumn apple. We have now a market for our autumn apples. There is always more or less of a market for them in our district—the Niagara District. For the last two or three years we have had failures in our apple crop. I need not go into the causes. These failures have been owing to an unusual combination of circumstances. And yet I believe, from conversation with those who have grown apples for market, that notwithstanding the failures they have realized more from each acre of their orchard, taking ten years together, than from any other acre on the farm. We must expect some seasons of deficit. What business can we follow, what crop can we grow, that has not its failures? What pursuit in life can we engage in that has not its downs as well as its ups? There is no use in our becoming discouraged in fruit growing because there happens to be a succession of failures for two or three years. It is well to have a sufficient variety, so that our eggs will not all be in the same basket. Have a few autumn varieties, and a few summer varieties, and the balance winter. Have the varieties that are best adapted to your soil

and to the market in which you expect to sell. Intelligence in fruit growing is just as important as in any other business. I have had persons come to me who knew nothing at all about fruit. I had a gentleman come to me two or three years ago, a lawyer by profession, whose health had failed. He wanted to know if he could not go into fruit-growing and make it profitable. "What do you know about fruit-growing?" I said. "Nothing," said he; "I never grew any fruit in my life." "Then," I said, "you will make a complete failure. The first thing you have to do is to apprentice yourself out for a season or two to some person who is growing fruits." There are other varieties that believe can be grown with profit. Grimes' Golden is an apple of first quality; and if I were growing an apple orchard with reference to the European market I would make that one of the varieties that I would test thoroughly. It is of about the right size to suit the English market. The only thing against it is that it is not high coloured; and yet it has enough of a golden hue about it to be attractive to those who know anything about fruit. It will soon come to be appreciated as a good apple in that market, and I believe you will soon get from twelve to fifteen dollars a barrel for it there when you will not get over five dollars for the Baldwin. A friend of mine told me that he realized \$14 a barrel in Glasgow for the Ribston Pippin after paying all charges. I believe there are sections of this Province better adapted to growing the Ribston Pippin than the Niagara District. We are too warm for it. It requires a cooler, moister atmosphere than we have.

Rev. Mr. HILL.—When I came in I heard the name of an apple which is very familiar to me. I am not a fruit-grower; but when I heard the Gravenstein mentioned, I thought I would like to add my testimony to its high flavour, and its value in the English market and the apple market generally. It is grown very largely in the Annapolis Valley in Nova Scotia. Perhaps, as you said a little while ago, with reference to the Ribston Pippin, the Gravenstein may require a cooler atmosphere than it would find in other parts of Canada. It has a large crop as an alternate bearer, it is a very highly flavoured apple, and is very beautiful to look at. It is perhaps one of the best table apples that grow. At the Fruit Exhibition of eight or ten years ago, Mr. Haliburton, the Queen's Counsel now residing at Ottawa, undertook to select apples for England from among the choice apples shown in Kentville, Nova Scotia. All his apples took prizes, and amongst them the Gravenstein. I think if the Gravenstein were largely grown it would realize as large if not a larger profit than the Ribston Pippin, though it will perhaps not keep so long. It will not keep much longer than this time of the year unless it is in a very cool atmosphere.

Mr. A. M. SMITH.—I presume the gentleman's experience has been in Nova Scotia, where the apple is grown in a colder climate. Here the Gravenstein will not keep till Christmas in good condition. Its season is about October and November.

Mr. GRAY, Woodstock.—I do not know much of the Gravenstein. It is grown here but little. The Ribston Pippin, I think, is an apple that may be grown successfully almost every year. I have had it in my garden for a great many years now, and I do not know of any one year in which it has failed. We always have a fair crop every year. I remember one year that I gathered eighteen bushels off a middling sized tree. I find they will keep very well up to about the first of February. I have them now just as fresh as they were when they were picked off the tree; but this year they are looking much better than they have done generally. Years before this they have been attacked a great deal by the worm, and they have matured early. This year they did not mature so early. In Montreal they will always realize for domestic use from two to three dollars more a barrel than any other apple that is brought into the market. The Greening, the Golden Russet, the Pomme grise, and the Baldwin, are all grown pretty largely in this part of the country, and I think successfully. Some of our old apples are now getting out of date, and I am sorry for it, because some of them are among the best apples we have. One of them is the Spitzenberg. I think it is a great pity that it is failing. The Snow is about as good an apple as we have. Some seasons it is spotted, and other years it has been very clean and clear. It does not spot here as a general thing. Of course different soils will make a great difference as to spotting.

Mr. GERR.—I would like to ask the gentleman if he finds the Pomme grise to be profitable for market, and if so, in what market. While I am up I would like to add a

word or two of testimony as to the value of the Ribston Pippin. It is really a very valuable apple. It has excellent qualities, and it will be right up to the present time. An apple that is coming into us, amongst us, brought from Russia, is called the Tetradsky, it is a summer variety, one of the first on the list to ripen. When matured it is not very large, but it resembles wax. It will take well in the market. Unfortunately the flesh is a little tough, and quite acid, but in my opinion the apple is one that will be profitable for market.

Mr. DENTON.—I wish to bear testimony to the merits of the Gravenstein as grown in Westminster by Captain Shore and his brother. They planted it about twenty-five years ago, and they both consider it the best apple in their orchard. In going through the orchards last summer about London I found the Duchess of Oldenburg bearing better than any other apple; and when it came into the market it was on the whole, I think, one of the best varieties offered.

Mr. GRAY.—I am not prepared to answer as to the profit of growing the Pomme grise.

Mr. BEALL.—We have in our neighbourhood no large orchards. We have a great many apples grown, but the orchards are all on a small scale. I am satisfied, however, that better specimens are grown of certain varieties there than I have ever seen exhibited at any Provincial Fair. We commence the season always with Duchess; that stands first. The Duchesses are always of good size, and they have a fine colour; but they come earlier than they do in a great many other places. Last year was the first that I have ever known the Duchess to mature at a time which would fairly entitle it to be called a fall apple. It is a summer apple with us almost always. The next apple to that is the Astrachan. It does not bear well with us. We got a very good sample, very finely coloured, large sized, but the quantity produced is not so great as of many others, and it is not so profitable. The most profitable fall apple I think that we have would be the St. Lawrence. I have one tree that two years ago, eleven years from the time it was put out, yielded eighteen bushels. There are a large number of varieties of fall apples grown in the neighbourhood, but people find out that they are unprofitable; that is they are not so profitable as others, because other varieties mature about the same time, and they become a drag on our market; and they cannot be shipped. Our winter apples are few in number. For some time past I have thought that the Golden Russet was the best—the most profitable we have, but this last three years the Golden Russets have not turned out well. Two years ago the leaves were blighted considerably, and last year they did not recover.

Mr. GOTT.—Would you explain the nature of that blight?

Mr. BEALL.—When I said a blight I should have said a fungus. The leaves all turned brown, and most of them fell from the tree much before the proper season. I am more deeply impressed this year than ever before with the greater profitableness of Grimes' Golden than of any other tree. I have only one tree of it, I am sorry to say. I have thought since I have been here that there may be a particular reason that it has succeeded so well this year with me that I had not thought of before. This tree is in a place I have reserved for trees, and for about three years past I have had about six inches of sawdust lying all over that spot. This is never disturbed, and I have found it a very great advantage to the apples, and especially to the Grimes' Golden, which falls very early in the season, and when it falls on hard ground is of course destroyed, but falling on the sawdust is uninjured. It has just occurred to me here whether it might not be well for us to use sawdust much more than we have been doing. The Gravenstein is grown, I believe, in our neighbourhood, but only by one or two persons. I brought a few apples to the Provincial Fair at Guelph to have them named, and there was considerable doubt as to whether they were Gravensteins or not; but since I went home I have satisfied myself that they were. Mr. Beadle had some doubt about the matter. He thought when he first looked at them that they were Gravensteins, but after tasting them he doubted it. He thought they were too large for the Gravenstein, and not sufficiently coloured. The Ribston Pippin is grown in our neighbourhood, but it is not a favourite. It is a very shy bearer.

Mr. CROLL.—I would like to hear from some of these gentlemen who have recommended the Ribston Pippin and the Gravenstein whether or not they spot. Perhaps they spot a

little. Well, the Fameuse at first spotted only a little, but they have gone on to spot so much now that they are almost useless. That used to be our most profitable apple. With us they are not only spotted, but they are completely discoloured. I think they would better be called the Leopard apple than the Fameuse.

Mr. AIKENS. — I have had very little experience in apple growing; but I have had very great success with some kinds, more particularly with the Northern Spy. I am inclined to believe the difficulty this gentleman speaks of with regard to the spotting is owing to the fact of overbearing. I think if he were to thin off the crop — reduce it to a proper quantity — the spotting would be done away with. I have found with my snow apple trees that when I had a large quantity of fruit the apples were disposed to be spotted and small, but when there was a smaller quantity they were large and fine.

Mr. CROIL. — The last crop I had of good Fameuses was an extraordinarily heavy one, and since that time they have spotted worse than ever they did.

Mr. AIKENS. — Do you consider the Fameuse and the Snow apple one and the same?

Mr. CROIL. — Yes.

Mr. REILLY. — I had a list of questions handed to me last fall with a request to have the answers filled out. When I was in Liverpool last winter I had this done by a broker there, and I will just read the questions and his answers.

1. Give a list of varieties in order of merit which command the highest prices in the market?

Newtowns, Kings, Canada Reds, Lady Apples, Golden Russets, Baldwins, Spies, Spitzs, Rox. Russets.

2. Specify varieties being shipped which you think are not likely to remain in demand permanently, and why?

The above descriptions are likely to remain in demand permanently.

3. How should apples be sorted as to size and colour for packing?

Different sizes under distinguishing brands as regards colour. Only one description of apples should be packed in the same barrel.

4. How do you advise packing to carry best?

Packed tightly.

5. Would bushel boxes suit better than barrels?

No.

6. Would it be any advantage to use barrels with scarcely any bilge and large quarter hoops, so that in rolling the entire weight would come on these hoops?

Do not think so.

7. Would there be any advantage in a barrel holding two bushels?

No.

8. Should the package be air-tight or have a vent?

The barrels should be air-tight.

9. Will it pay to use a more expensive package than the usual apple barrel.

No.

10. Would there be any advantage in packing a very select assortment in kiln-dried chaff, wrapping each apple in tissue paper, and padding top and bottom of barrel with marsh grass?

Do not think it would pay to do so.

11. Give varieties that carry and keep best in order of merit?

Golden Russets, Rox. Russets, Greenings, Baldwins, Newtowns, Spies, Spitzs.

12. Give the features that compose the points of excellence in your market?

Large-sized fruit, good colour, and keeping quality.

13. Do you consider Canadian grown apples superior to American grown in point of quality?

Yes, in keeping quality. Some seasons there are sufficient apples grown in the vicinity of London to supply that market; but Liverpool and Glasgow will remain good markets for our apples.

The PRESIDENT. — Is the market liable to be overstocked in such a way as to make the price fall below what is remunerative?

Mr. REILLY. — When they get to a low price, such as they did in 1880, the consump-

tion largely increases until they use a large quantity in England. For instance, they had nearly a million barrels from America that year, while last year they had very few from here. They seem to think over there they can use any quantity when they get the fruit good and cheap. Last year our apples cost us so high that with the charges which had to follow we could not sell them at a price which would enable us to compete with the growers in England. Oranges are very largely used there when they get them cheap; but I found in 1880 that they used apples in a great many places where formerly they used oranges. Oranges were very cheap that year too. The pedlars in London would load up with apples instead of oranges, because they got them so much cheaper.

Mr. BUCKE.—Did the prices received that year pay the people in Canada?

Mr. REILLY.—Yes. We took a large quantity over that year, and we realized very well on them. We got eighteen shillings for them that year; and at eighteen shillings they could afford to sell them there at two pence a pound, which is a very reasonable price there. We furnished the packages and did the packing, and paid about a dollar a barrel for them that year in this vicinity.

Mr. GILCHRIST.—Were the apples arranged according to their merit, and according to size and keeping qualities?

Mr. REILLY.—That is what the broker endeavoured to do. The Newtown Pippins brought the largest price. The market in England seemed to be very largely for high-priced apples this last year.

Mr. GOLDIE.—That year that you were paying a dollar a barrel here for them and they were low-priced in England, did they pay anything to the shippers?

Mr. REILLY.—Yes.

Mr. GOLDIE.—In all probability even with a plentiful crop they would not go below a dollar a barrel, and they could be shipped at that any year?

Mr. REILLY.—Yes; good Canadian apples bought at a dollar a barrel you would seldom lose money on, no matter how large the crop was. There is a great deal in having the apples taken off the trees properly, and properly packed into the barrels. My experience is that they require to be very tightly packed. They sell apples in Liverpool as slack packed if there is any rattle; and that means a couple of shillings a barrel in the amount realized from the sale. I thought we were packing our apples tight enough, but I found we were not.

A MEMBER.—What method would you recommend to pack them tighter than can be done by the hand; pressure?

Mr. REILLY.—I do not think there is any better method than that. They did not seem to think there was in Liverpool. I asked them if they thought it would be better to pack the ends with marsh grass, and they said they thought not. In London the sale charges are higher than in Liverpool. They are about two shillings a barrel in London; whereas about one-and-sixpence will pay them in Liverpool.

A MEMBER.—Are they saleable if eaten with the worm at all?

Mr. REILLY.—Well, it interferes with the sale. They want them thoroughly clear.

Mr. BUCKE.—Have you had any experience with dried or canned apples in England?

Mr. REILLY.—No. There were a few in London when I was there; but they were very dull sale. The people did not seem to have taken hold of them yet, but they seemed to think they would.

A MEMBER.—They use them in the north of England a good deal.

Mr. REILLY.—Yes.

The PRESIDENT.—We have a gentleman present from Michigan whom we should like to hear on the subject, Mr. Graham, of Grand Rapids.

Mr. GRAHAM.—I have been making fruit culture my occupation for the last twenty years in Michigan. I grow quite a number of apples; more largely of peaches, plums and cherries. I have about ten acres of an apple orchard. As to the question, are we warranted in extending and enlarging our orchards, have we a market and a demand for our apples? I say yes, emphatically, if we grow the proper varieties. As for summer and autumn fruits, we consider there is little profit in them. I recollect very well forty years ago, when I was a citizen of this country, teaming apples from twenty miles below St. Thomas up to London and peddling them out at twenty five cents a barrel, taking two or

three days to make the trip. When I look back to that time I see that we are making some progress. Looking at the immense amount of fruit that is consumed to-day among ourselves and in foreign countries and to the increasing demand, it is a patent fact that we cannot set out too much apple orchard. Apples are the standard fruit, and are going to continue so. The most valuable variety we have for the market is the Baldwin. It will command a higher price in our western markets than any other variety. Then comes the Greening. It is winter fruit I am speaking of now. Next to the Greening would come the Canada Red, or Steers Red, which we consider the same thing. The Northern Spy for home markets, Chicago, St. Paul, and Milwaukee; but for long shipments we do not consider them valuable—they are too thin-skinned, and they do not bear rough usage.

The PRESIDENT.—What about Grimes' Golden?

MR. GRAHAM.—We grow the Grimes' Golden; not largely, but sufficiently so to test its commercial value. As a dessert apple I think it unsurpassed; and it is a fine shipper. With us it is remarkably free from blemish; we have no apple in the orchard that is so free. It is fair, medium-sized, which for shipment I consider quite an advantage. The color is rather against it. It is green before maturity; but when it is ripened up properly it is of a fine orange colour. I think parties once using them will afterwards seek further for them. There is another apple that I want to give my testimony in favour of, and that is the English Russet. We call it the Golden Russet. It is an apple that with us does remarkably well. It will weigh heavier to the bushel, and I think it is the highest grade apple we have in the list. It is an apple that, I think, will ship better than anything we have in the market.

MR. GOTT.—Is that English Russet distinct from the American Golden Russet, or is it the same?

MR. BEADLE.—It is the Golden Russet of Western New York.

MR. GRAHAM.—I would also endorse what has been said in regard to the Gravenstein, and also what has been said as to the Primate, which is a very fine apple. The Duché's also we esteem as one of our best apples. It is the coming apple of Michigan for a summer apple. We have another apple that is highly esteemed. It is called the Shiovassee Beauty. It is very similar to your Fameuse, but entirely free from those spots and blemishes which so afflict the Fameuse. With us the Fameuse has become almost entirely worthless on account of the spot. I am glad to see in the country through which I travel evident signs of progress and prosperity. I find young orchards in almost every section of the country.

Rev. MR. HILL.—Have you heard of the Bishop?

MR. GRAHAM.—No.

MR. BEADLE.—That is a Nova Scotia apple.

Rev. MR. HILL.—It is an acid apple, a very fine one.

The PRESIDENT.—With regard to the Grimes' Golden, I think it is about eleven years since that apple was first put out. I ordered fifty trees from the original introducer when it first came out; and it was in those days when the Grand Trunk Railway was not so prompt in the delivery of freight as it is at the present time. These apple trees were shipped from the neighbourhood of Cleveland, and it was about a month from the time they were shipped until they reached me in London. The trees had been rolled up in canvass, and the canvass was partially torn off and the roots exposed for nearly the whole of the month. When the trees came to me the roots were dried and the wood shrivelled. I threw the bundle into a pond of water, and left it there for about two days. During that time the wood swelled and the roots softened; and I planted those trees, and out of the fifty succeeded in growing forty-eight. I have found them stand the cold well. The apple is one that deserves to be better known; and I think that when we grow it in sufficient quantity to ship it to England it will be one of those apples that will head the list. The American Golden Russet I find to be an apple that yields good crops; scarcely ever fails; and the fruit commands good prices. The Snow spots badly in our district, but there is a considerable quantity of it grown there. The bulk of the apples of that variety have to be made into cider or used in some other way than shipped. The Wagener succeeds well throughout the most of Ontario. It bears very well, and abundantly. The fruit is

of medium size, of excellent quality, and good colour. We have had favourable testimony at previous meetings as to the price it will command in Europe.

Mr. GRAHAM.—There is another apple that is going to be a very good one for shipping purposes, although the quantity is only enough to serve as a dessert or table apple, and that is the Amercan Pippin. It is a medium sized apple, and it has excellent keeping qualities. It has a pretty thick skin, and I believe it is an apple that is going to be largely grown. It is inclined to be dry; is mild sub-acid, medium sized, and fairly well coloured.

Mr. GOLDIE.—One apple I have not heard mentioned is an apple that is grown very largely in Nova Scotia also; that is, the Nonpareil. Two years ago I was in Halifax attending the Dominion Exhibition there, and talking with Mr. Storr over it, he considered it one of the finest and best flavoured apples they grew there. In shipping to England they commanded the highest price of any apple they grew.

Mr. BEADLE.—Do you know which Nonpareil it is? There is such a long list of them. Is it Ross? Ross' is an English apple.

Mr. GOLDIE.—I do not know which it is.

Mr. BEADLE.—Is it a little Russet?

Mr. GOLDIE.—Yes.

Mr. BEADLE.—That is the Ross' Nonpareil. In our district it is dry and almost worthless. Perhaps in a cooler and moister climate it would be a valuable apple. I have two trees of it in my orchard which have been bearing for the past twenty years.

Mr. HICKLING (Barrie).—I quite agree with many of the remarks that I have heard respecting winter fruits; but we find in our locality that we are raising too many varieties—that we have too many fall apples, and they are very hard to dispose of. There is no sufficient market for them. As regards the summer apples we approve very much of the Red Astrachan. It is about our earliest apple. Then we have the Early Joe. That is a very nice apple for the home market. Then we have the Pirmate. I think it is a very good apple. It does well with us and does not spoil. We have had very large crops of it for a number of years. The Duchess of Oldenburg comes after it, or about the same as the Pirmate, and is the best apple for the market, and I think it is getting into general cultivation in our section. It is liked by almost every person. They approve of it as the best apple for a fall variety. As regards the winter apples the Northern Spy does very well with us. Some places it has failed, but we have had large crops of Northern Spies and very fine ones. The Baldwin is doing very well. We have had some very good crops of it. I think the Baldwin is, take it on the whole, superior to all others as a winter apple. The Fameuse or Snow apple is almost a failure with us on account of the spots. We have got so discouraged with trying to raise it that we have thought we would top graft it with some other kind. We have some very fine Golden Russets.

Mr. BEADLE.—Does the Roxbury Russet thrive with you?

Mr. HICKLING.—We have very few Roxbury Russets, but they are a very nice apple.

Mr. BEADLE.—Do they stand the climate well?

Mr. HICKLING.—I think they do. The St. Lawrence apple is very prolific, and a very nice marketable apple—does remarkably well with us. I was at Bracebridge lately, and there I met a man—Mr. Conison I think his name is—who has about twenty-five acres of land that he intend to plant. He has about three hundred trees. Of course it was not a season to know very much about it, but the trees looked very well. He said the Haas did very well there.

The PRESIDENT.—Do you find the planting of orchards in the Muskoka district increasing?

Mr. HICKLING.—Yes. I got a note from Mr. Coates, at Rosseau, who gave a very glowing description of some of the fruits. He was very much discouraged when he first began. The trees killed down so that out of a hundred apples that he set out at first he had only about five left, but he attributed it not so much to the climate as to want of drainage. He thinks he can raise as good summer fruits there as he can in any part. He sent a basket of strawberries to Toronto last year and took a first prize though there were

I think, forty competitors. I have not the least doubt that in our locality we can raise a good many apples that you perhaps could not raise on account of its being warmer here.

The PRESIDENT. — I had the pleasure of seeing Mr. Coates' place three or four years ago, and he had as fine strawberries there as I have seen anywhere. His orchard looked rather discouraging then, so many of the trees had been killed by frost.

ESTABLISHING AN ORCHARD.

The following paper from Mr. Wm. Grey, of Woodstock, was then read :

The ground for an orchard should be well and deeply cultivated, and free from weeds, well drained, if the soil requires it, and most soils are better for draining except sandy or light gravelly soils with a light subsoil. Such land may not require draining, but in every case it should be well worked and pulverized and enriched before planting. The work of preparation must be done during the summer, so as to be ready for fall or spring planting. Planting in the spring is preferred, which will enable the trees to take firm hold of the earth and to resist the frost of the next winter, but planting may be done successfully in the autumn by protecting the trees so as to prevent the frost from heaving or misplacing them.

Select young, healthy and vigorous trees, and from a reliable nurseryman, and if possible from a soil similar to that in which you intend to plant your orchard. The different kinds of apples will depend on your own choice and the suitability of soil and climate. I should advise that the selection be made from the old, tried and reliable kinds.

The distance apart should not be less than thirty feet, so as to allow the trees room to spread their branches and to form a low and spreading head. Close planting has a tendency to force the trees to run up, and preventing the fruit from obtaining its proper colouring from the sun, and making it more difficult to gather the fruit. At the distance of thirty feet apart it will require twenty nine trees to the acre. Before planting the tree, remove all bruised and broken roots by cutting clean with a sharp knife. Lay out your ground in straight lines, so that your trees will be in line each way and at equal distances, thirty feet apart. This may be done by planting stakes.

Dig the holes the proper depth and level at the bottom, and large enough that the roots may be straightened to their full length by the hand. The roots should lie equally divided as near as can be done. The proper placing of the roots has much to do with the growth and beauty of the tree. If the roots are thrust into the ground cramped, crooked, and without proper care, the trees will grow in like manner, stunted, crooked and misshapen. When the trees are placed in the hole, the roots properly divided and straightened, a little fine earth should be shaken over the roots, the tree slightly raised so as to give the roots a natural descent. The tree-top should incline to the west several inches, the hole to be filled with fine earth and firmly pressed, so as to hold the tree in its proper place. The prevailing west winds will soon bring the tree up to a perpendicular position, for if you will take the trouble to examine the orchards around you, you will find nearly all the trees leaning to the east. This is caused by the strong west winds.

The ground is prepared, the trees selected and planted, but your work is not finished ; care must be taken of the trees and ground. The tree tops should be well formed by proper pruning. The branches from the trunk should be at or as near equal distances apart as it is possible to have them, and three main branches or limbs are quite enough to form a beautiful head or top ; if this is done after pruning, no large branches will require to be cut or removed from the trunk ; without this precaution at first pruning and forming the top it is often necessary to remove large limbs from the trunks, thereby causing a gradual decay and finally destroying the tree. The ground should be well cultivated and kept in good heart, and may be profitably cropped for several years with potatoes, turnips, mangolds, carrots, cabbages or any other root crops.

The orchard should be well and securely fenced, and no cattle allowed therein: fowls and swine having the run of the orchard will be a benefit to it, by destroying the diseased fruit and insects.

In conclusion I may say, that the same preparation as before recommended may be adopted with advantage in planting shade trees, evergreens, lawn planting, shrubs, or even flowers.

The few suggestions in this paper have been obtained from practical knowledge from work done by the writer, by planting orchards on his father's and his own farm and garden, in the county of Oxford, and from planting shade trees on the streets and public square in the town of Woodstock, having planted the first shade trees on the streets of this town over forty years ago.

Mr. GRAHAM.—In regard to the growing of crops in your orchards: My experience for the last twenty years is that whatever the description of trees—whether apple, cherry, peach, or plum—a grain crop is superior to any other crop that I have ever grown in an orchard. Take some of the smaller varieties of corn, the tree occupying one hill as you may say, the shade afforded by the stalks is a protection to the young tree, and keeps it more in the condition it would be in the nursery than it would otherwise be.

The PRESIDENT.—How near would you allow the corn to grow to the tree?

Mr. GRAHAM.—About three and a half or four feet.

Mr. CROLL.—I was delighted with Mr. Gray's address. It contained so much that was practical. I think I have seldom heard so much in a few lines. I think he had there just about all the information you want about how to plant trees and plant them well. I think he said he planted them in the spring and fall. I may say that I have always found the spring the best time to plant trees. Another thing he spoke of was planting the trees with the tops to the west. That is a good idea. In that case they do not require stakes at all. It is very true that hogs running in the orchard will pick up insects; but they will take some of the good fruit too, won't they?

Mr. BEADLE.—I have a paper which bears upon this subject left in my hands by Mr. Beall who received a telegram that some member of his family was ill, and had to leave. It might perhaps be read now.

FRUIT GROWING IN ELECTORAL DIVISION No. 5.

BY THOMAS BEADLE, LINDSAY, ONT.

This division is composed of the counties of Northumberland, Durham, Victoria, Peterborough, and Haliburton: bounded on the south by Lake Ontario, having a coast line of nearly seventy miles thereon, and running into the interior, between parallel lines, a distance of about ninety miles.

A very large portion of the counties of Durham and Northumberland, and of the southern parts of Victoria and Peterborough, is eminently suited for the successful and profitable cultivation of all our staple fruits—excepting the peach. Apples and pears are more extensively grown than other fruit is throughout that portion of Durham and Northumberland lying south of the “ridges”; but north of the “ridges” and along on both sides of that great stretch of water which supplies to the counties of Victoria and Peterborough hundreds of miles of inland navigation, known as the “Trent waters” and its tributaries, may be found numberless isolated or detached tracts of land, many of which are thousands of acres in extent, more suitable for the profitable production of all the staple fruits, including grapes, than generally prevails in the first named portion of this district. The soil here is generally of a light, warm, loamy nature, containing a large quantity of humus, and extending from one to three feet in depth: generally overlying a gravelly clay subsoil. The elevation of these tracts, which varies from about 300 to 700 feet above Lake Ontario, and their proximity to such large bodies of water, secures to these favoured lands warmer and dryer summer days; cooler nights, with very heavy dews, and greater protection from injuries by late and early frost, and also favouring a

more sufficient depth of snow for protection during the winter and early spring than exists at a greater distance from the water.

And yet there is but little fruit grown upon these eligible lands. The earliest settlers chose such lands for settlement as appeared to them most suitable for agricultural purposes, *i. e.*, the flat lands having heavy clay soils. Fruit-growing was an after-thought, and was tried only as an experiment on such land as was most convenient, and by persons generally in no way fitted to secure the best results. As a consequence we find that thousands of trees which had been planted on flat, undrained, heavy clay soils soon died, while many of those planted on hilly land, or where under-draining was not requisite, produced healthy trees and plenty of the most excellent fruit. The light loamy or sandy soils, supposed at that time to be inferior for agricultural purposes, fell into the hands of persons even less qualified to experiment in fruit culture than the settlers on the heavy lands; but, like their more opulent neighbours, they too must have an orchard, and the result has been that they have succeeded beyond their expectation, and would have been completely successful if varieties properly suited to their surroundings had been selected. As the matter stands, the partial successes now everywhere to be seen throughout this district may often be regarded as purely accidental, while the failures may generally be attributed to the grossest ignorance of the subject; consequently the magnificent specimens of fruit, especially of apples and pears, which may be seen at the annual exhibitions held at Coleridge, Port Hope, Bowmanville, Millbrook, Peterborough, Lindsay, Oakwood, and at many other local fairs throughout the territory referred to, and which in many cases, or not so equalled at our great provincial gatherings, may truly be regarded as "the survival of the fittest."

The question may well be asked, Why is there so little grown where there seems to be so much land admirably suited to this most desirable branch of farming?

I believe the chief reason to be listlessness or indifference in the undertaking, caused by the uncertainty of results arising from a want of the most rudimentary knowledge of the requisites and conditions necessary to insure success, such as suitability of soil (or if not quite suitable, how to remedy the defects), local peculiarities of local climate, selection of varieties suited to the locality, preparation of the soil, proper care in planting, after-cultivation, pruning, and above all, having too many varieties.

Most of our orchards are either too large or too small for profit. When apples are required for the use of a family only, several varieties are necessary to secure a succession of fruit during the year. For this locality two trees each of the following varieties:—Duchess of Oldenburg, Red Astrachan, St. Lawrence, Snow Apple, or Wadthy, Grimes' Golden, Northern Spy, Golden Russet and Taiman Sweet will secure this end, and be sufficient for any ordinary family. Two or three times this number of trees would in most cases prove unprofitable; but, if an orchard is to be planted as a commercial undertaking not less than four or five acres should be devoted to any single variety, and the varieties which, after due consideration, should be regarded as the most remunerative should be selected without regard to quality or taste.

Before commencing to plant an orchard on a large scale, the three following considerations should receive intelligent and earnest attention:—

1st. Are the climatic conditions of your immediate vicinity favourable for the production of the kinds of fruit you wish to cultivate?

2nd. Is the soil suitable to your requirements, *i. e.*, does it contain the requisite chemical elements? and if so, are the mechanical conditions of the soil to your purpose? and if not, can it profitably be so prepared?

3rd. What varieties will be most remunerative?

The subject of climate is placed first, as if this is unsuitable the objection is fatal. The summer heat should be sufficient; the cold of winter not too great; the aridity as well as the humidity should be ascertained; there should be a sufficient rainfall in summer and a protecting covering of snow in winter; and also sufficient time between the late and early frosts for the maturity of the required fruit.

The suitability of the soil in its natural state is of great but not of equal importance, as most soils can be so ameliorated as to become suited to the necessities of the case. It is simply a matter of expense.

When the climate and soil are known to be suitable to your requirements, the next most important question is as to the time or most desirable for your purpose. This may be determined, 1st, by experience; or, 2nd, by observation and inquiry of your neighbours, or by other means connected with the first is a slow and costly process. The second is quick and certain. The addition, on a small scale, of the first plan to the second may to some extent be desirable.

The expense of planting a large orchard and the cost of its cultivation and maintenance until it becomes remunerative require a large sum of money, and there are not many persons who can undertake such a venture with the necessary means and the capital, and those who have spare capital rarely possess much knowledge of fruit culture, and are therefore dependent on other people's knowledge. Hence the reason why so little capital is invested in this most lucrative industry.

If a good stock company is to be collected to build a factory, a wagon shop, or a steamboat, capital is freely subscribed, and often by persons having no knowledge of the business; then, why not seek to establish the same principle in fruit farming? The records of the fruit business during the last twenty years prove conclusively that this province is more suitable for the growth of staple fruits than any other country of equal extent in the world.

When this subject meets with the response it deserves thousands of farms, say of 100 acres—there are many such in this neighbourhood—each peculiarly suited to fruit culture, which are at present furnishing but a beggarly subsistence for a single family of say three or four persons, and which by the expenditure of a comparatively small sum of money in skilled labour and "plant," will furnish employment for at least fifty persons, and in a few years the miserable-looking farm will be changed into a beautiful and profitable fruit garden.

I believe no other industry can furnish so much employment for both skilled and unskilled labour, so advantageously raise the moral and social standing of our people so much, and at the same time realize for the investors such large profits on the capital invested as in this, the most delightful and least laborious of all honourable out-door occupations.

THE QUESTION BOX.

The afternoon session was opened by the reading and answering of questions from the question box, as follows:

MR. BEADLE.—The first question in the question box is one with regard to this piece of timber, referring to a piece of a branch of a tree which is lying on the table. It is perforated through the bark by small holes. It was given to me by a gentleman who thought that the insect, which made the holes were the cause of the yellows in the peach. This is from a peach tree. The question is, "Is this insect the cause of the disease known as the yellows in the peach? If not, what is the insect, and what is the remedy for these attacks?" It is believed that these attacks have something to do with injury to the trees.

THE PRESIDENT.—The insect in question belongs to a family of insects known as cylindrical bark borers. As far as I know of their habits they attack the trees when they come in considerable numbers. The channels often radiate to a considerable extent from a common centre. I do not think that these cylindrical bark borers often attack healthy trees. They generally affect forest trees which have been fallen and allowed to remain for some time, and in which incipient decay has taken place. I do not know of any better remedy than an alkaline wash applied to the bark of the tree, such as soft soap diluted to the proper consistency with solution of washing soda. That, when dried, forms a sort of varnish over the tree, which remains for a considerable time, and is not easily washed off by the rain. A yearly coating of this applied to all our fruit trees will aid materially in keeping down all these borers. I do not think that the presence of these insects has anything to do with the yellows in the peach.

MR. BEADLE.—I have another entomological question. Here are some small twigs of the peach which seem to have been perforated by some insect, and apparently eggs deposited

in the perforations. A gentleman in the Niagara district sent me these samples; and he has written an article which was published in one of our St. Catharines papers upon this as the cause of the yellows in the peach. The insect is evidently a different one from that I have just handed to you. The question is, "Is this the cause of the yellows in the peach, or has it anything to do with the yellows; if not, is the insect likely to produce serious injury to our fruit trees?"

THE PRESIDENT.—The insect referred to here is what is commonly known as the tree cricket. Its habit is to deposit its eggs, which are about the one-sixteenth of an inch long in twigs of fruit trees and vines. It affects the raspberry more than any other variety of fruit, depositing its eggs in the canes. The female is furnished with a long sharp ovipositor, and she sits upon the twig and saws a hole about half-way through it, deposits an egg, shuffles along a little farther and deposits another egg, and so on until she lays about twenty eggs; that is about as many as she will lay in a patch. She then shifts on further and lays another lot. When these deposits of eggs are made there is left on the surface of the bark a peculiar mark like a row of punctures which have been partially healed. The track is very easily seen on the cane. The result of this work is to weaken the cane; and in the case of the raspberry it very often results in disaster; because the cane being weakened, when the foliage expands in the spring of the year the cane breaks off at that point. The grape canes are often selected as suitable places for these eggs; as also are the twigs of the peach, the twigs of the plum, and occasionally those of the apple and the pear. The insect itself does not feed on any of these trees or vines; neither does the young when hatched feed on them. The only object of the insect in laying the eggs in these twigs is to have them protected in the winter. As far as their habits of feeding go they are claimed to be beneficial rather than injurious. It is said that they feed on aphides, but I do not know that they do that to any great extent.

MR. GOTT.—Is that the insect which causes that peculiar singing noise which we hear about the month of September, especially in the evening, and if so how is that done?

THE PRESIDENT.—The male of this insect sings, I think, all day long. The females are voiceless. You can often see a male singing beside the female when she is laying her eggs—encouraging her, I suppose. The only way to get rid of them is to cut these twigs out in the winter and burn them. Sometimes in the autumn the insects can be caught where they attack raspberry bushes badly by holding some vessel under the bushes and shaking them into it. In the morning they are torpid, and can be caught in that way.

MR. BEADLE.—I understand you, then, that neither of these insects has anything to do with the yellows?

THE PRESIDENT.—Nothing whatever.

QUESTION.—What profit may be expected in a favourable season; first, from ten acres of peaches; second, from ten acres of apples? Can apples be grown profitably, and if so what kinds, in the neighbourhood of Lindsay?

MR. A. M. SMITH being called on to answer with regard to peaches, said: It will depend a good deal on the soil, the location, and the varieties. If they were on good soil, in a good location, and the season was a good one, we might expect (about the time they were in the best of their bearing) a couple of thousand dollars for them.

MR. BEADLE.—He says everything being favorable. As an average what profit may a man expect to get from ten acres of peaches—at Grimsby.

MR. A. M. SMITH.—Formerly a man would expect to average about a hundred dollars an acre profit from his peaches.

MR. DEMPSEY being requested to answer as to apples, said, variety and market has something to do in this matter. I have known a hundred apple trees of the Colvert variety, after being fifteen years planted, to produce \$500 in a year. This was perhaps the largest amount that we would get. If we had ten acres like that it would be \$5,000 in a single year. The expense of cultivating the orchard would be but very little. I think we can safely calculate, taking one thing with another, when the trees have arrived at mature age, on \$100 per acre profit for apples. That is with good varieties. I think apples can be grown profitably in the neighbourhood of Lindsay. I have heard Mr. Beall speak of varieties—in fact I have seen them—growing in the neighbourhood of Lindsay

which seemed to be succeeding admirably well. Take the Duchess of Oldenburg. In the midlands and at Lindsay it does well and produces large crops, certainly matures earlier or fully as early as the same variety grown near the front under the influence of our large bodies of water. The Tallman Sweet grows there, they speak very highly of. The Golden Russet succeeds also. It occurs to me that the Wealthy might succeed in those northern climates.

Mr. GOTT.—What about Ben Davis? It is one of the promising apples of this country.

Mr. DEMPSEY.—The Ben Davis with us this year has been badly spotted, like almost every other variety. The Duchess of Oldenburg and two or three of the new varieties that we have were free from spot this year. The Ben Davis wants a good warm soil; and invariably it is necessary to thin the fruit. It will become a prettier apple, when packed for the market, than the Northern Spy, if properly grown. But if we allow the fruit all to remain on the tree it will be small and without flavour. I think the Ben Davis will succeed almost anywhere. The Alexander would be profitable at Lindsay; and the Tetofsky ought to be too. Almost all those Russian varieties ought to succeed there.

QUESTION.—What is the best preventive and the proper time to prevent the codling moth from attacking the early harvest apples?

The PRESIDENT.—I forgot to say to the members of the Association that we have with us one of the foremost agriculturists of New York State, Mr. Woodward, of Lockport. Perhaps we had better call on him to answer this.

Mr. WOODWARD.—Decidedly the same remedy will prevent the codling moth attacking the early harvest apples that will keep down the late codling moth, that is, apply some sort of poison, some Paris Green, or London purple for instance; and the proper time to apply it is after the blossom has dropped and while the apple, though it has appeared, has not got large enough to turn down. This is a specific for destroying the codling moth. There are many ways by which the codling moth can be kept down. One is by pasturing the orchard with sheep and hogs. I do that every year, and at the same time that you have them there they manure the trees. We apply the Paris Green with a force-pump. We use one that is made in Lockport. The Paris Green is mixed with water, and wants to be kept stirred up while the spray is being thrown upon the trees. The nozzle of the hose should be very small in order to make the Paris Green go as far as possible.

The SECRETARY.—I may say that the force-pump referred to was advertised in recent numbers of the *Horticulturalist*.

Mr. McD. ALLEN.—I have tried Mr. Woodward's remedy, and it was effective every time I did so. I used about a teaspoonful of the Paris Green to a pailful of water.

Mr. WOODWARD.—There is another little feature in connection with the use of Paris Green that I must say is contrary to my notion of the fitness of things. Messrs. Moody & Sons, large nurserymen in our town, are large plum growers. Last fall I went up and saw their orchards; and Mr. Moody showed me a part of the orchard in which they had used Paris Green for the curculio, and another part in which they had not used it, and I was surprised to see the difference. I had not thought it was possible for Paris Green to kill the curculio; but actually in the part of the orchard on which they had used Paris Green the trees were breaking down, while on the other trees on which they had not used the Paris Green there were scarcely any plums at all.

Mr. McD. ALLEN.—We have been using Paris Green for a number of years; but there is a prejudice against the use of it, simply because it is used in too large quantities. Some have hurt their trees by an overdose. But growers there who have used it pretty generally believe in it now.

Mr. GOLDIE.—What time do you use it on the plum?

Mr. McD. ALLEN.—It should be used very early, just when the fruit is early set.

Mr. CROLL.—Might I ask Mr. Woodward if some substitute might not be used for Paris Green which would be cheaper and just as effective; for instance, a strong decoction of tobacco. Or what would be the effect of carbolic acid or some such thing?

Mr. WOODWARD.—I have too much regard to the sufferings of even insects to use tobacco on them. It is almost impossible to get two samples of London Purple of the same strength; but if you buy the best grades of Paris Green you get a more certain commodity. A good tablespoonful of it is plenty for a barrellful of water.

ADDRESS FROM THE BOARD OF TRADE.

At this stage a delegation from the Board of Trade of Woodstock was introduced to the Convention, and Mr. John Craig (the Secretary of that body) proceeded to read the following Address of Welcome to the Association :

ADDRESS OF WELCOME TO THE ONTARIO FRUIT GROWERS ASSOCIATION

BY THE WOODSTOCK BOARD OF TRADE, 30TH JANUARY, 1884.

Mr. President and Gentlemen :

The Woodstock Board of Trade would, with your leave, take this opportunity of expressing the pleasure they felt when it was announced that you had arranged to hold the winter meeting of your Association in Woodstock. By doing so you intimate that you accord with ourselves in thinking that Woodstock is a prosperous and prominent town—the centre of a large fertile and prosperous agricultural and fruit-growing district, not unworthy of the eulogium frequently passed on it as being the garden of Canada, and the focus from which might radiate in every direction the light or knowledge which, as an Association, it is your object to diffuse.

The Woodstock Board of Trade recognize and pronounce your Association to be one of the most important and useful in the Province, and endorse with all heartiness the action of the Provincial Government in aiding your operations by financial appropriations. There can be no two opinions regarding the profits of fruit culture in Canada. It has been, is now, and will be a source of wealth to the country. Like other branches of husbandry, however, it has not yet reached its acme or height of perfection, and is subject to reverses. To further improve and develop it by the introduction of new varieties, and the suggestion of better modes of cultivation, and to combat and conquer its foes such as blight, insects, etc., is the object of your Association. Therefore is it that we, as a Board of Trade, having the material interests of the country as the object of our solicitude, hail your organization as the right thing in the right place. In the past your work has been invaluable, and we now say, go on and still further promote fruit culture and the kindred objects of your Association. You have met here to continue your operations by the reading of essays, papers, answering questions and discussion. We now tender you a most cordial welcome, and trust that you will feel at home among us, and that the result of your winter meeting in Woodstock will be in all respects eminently satisfactory.

JOHN WHITE,

Pres. Woodstock Board of Trade.

JOHN CRAIG,

Secretary.

The Mayor of the town was also introduced and addressed a few words of welcome to the Convention.

The President briefly returned thanks.

APPLE CULTURE IN THE COLD NORTH.

Mr. A. A. Wright of Renfrew, then read the following paper on the above subject :

It is a fact well known to horticulturists that persons living in the same latitude do not necessarily enjoy the same climate. On the contrary, it is very rarely the case that they do.

For example, I reside in latitude 45° 30', or on the same parallel as the inhabitants of the southern part of France. Yet while they enjoy the mild warm climate of Southern Virginia, we, in the Ottawa Valley, endure the more rigorous and severe climate of the southern portion of Central Russia.

While, therefore, we may justly claim to reside in the "Cold North," yet the inhabitants

of Southern France, though, as I said before, they may live on the same parallel of latitude, are by no means justified in claiming to reside in the "Cold North" also.

Even in our own continent the ground and air is continually changing, now going south as the elevation increases, or where the situation is not affected by large bodies of water or running streams, and then it may suddenly turn to the north for sometimes one, two, or even three degrees, where the surroundings are more favourable.

You can readily see that this will have a decided effect on the growth of all trees; so that those that flourish on one coast of the east, may entirely fail on the same parallel, if planted at an inland portion of the continent and situated at a greater elevation.

Fruit-bearing trees are, however, affected by these changes more than any other; and they are grown, or their propagation becomes a failure, in the same latitude across the continent not even according to the isothermal lines of annual temperature, but more in accordance with the lines of extreme cold in winter, or the so-called isochimenal ones.

I may here mention a remarkable instance. While on the eastern shore of Lake Michigan almost every kind of tree fruit natural to the temperate zone flourishes and is grown in abundance, yet on the western shore, but a hundred miles away, in Wisconsin, the climate is even less favourable for horticultural purposes than it is in our own Upper Ottawa Valley.

It is for these reasons then that I have designated this article with the title of "Apple Culture in the 'Cold North'" instead of saying merely in the "North."

And now to draw the line still more clearly. By the "Cold North" I mean those localities where the mercury frequently registers 30 and 35 degrees below zero in the Fahrenheit thermometer, and where in our test winters—such as the present one has been—it sometimes goes to 40 degrees below, as it did on the morning of the 6th January, or, in short, where the mercury freezes in the bulb.

It is therefore for persons residing in these unfavoured districts that this article is mainly written.

It is of course patent to all that there is a limit to the vitality of every tree, shrub and plant as regards temperature. The northern horticulturist has therefore two points to consider:—1st, the degree of cold to which his trees will in all probability be subjected; and 2nd, the cold-resisting powers contained in the tree he is about to plant.

The northern orchardist therefore should not plant a single tree that cannot endure an aerial temperature of at least 40 degrees below zero; for if he does the history of his trees from the nursery to the grave will be short indeed, and to him full of sorrow, accompanied with the usual financial loss.

It is scarcely necessary to say that a less degree of cold will destroy the unprotected roots of any kind of tree, and they should therefore invariably be well protected.

Fortunately nature assists us very largely in this respect by almost always providing us during the winter season with a cheap and abundant supply of snow, which as a shield from the biting cold stands unsurpassed. Occasionally, however, there are seasons in which we are largely deprived even of this blessing, and the vigilant and successful husbandman has to provide against this calamity by mulching his trees, especially those standing in exposed situations, with an ample supply of straw, long manure or some other substitute.

Doubtless it may be considered useless to tell anyone that it is unwise to plant even a single tree, much less a large number, until the ground has been thoroughly drained and properly prepared for their reception.

A few words as to the best method of preparing the soil might not be out of place here, nor unacceptable to the beginner. So far as my own experience goes I have found the best results by first ploughing the land up into ridges, so that the centre of the ridge shall occupy the place where the trees are to stand. Then plough the land again in a cross direction, thus dividing it into squares in such a manner that the centre of each square will mark the place for planting the tree. A series of high knolls will thus be formed so that if the work be well done the land will be quite effectively surface drained at least.

It is by no means objectionable to proceed in this way on any kind of soil, but it is absolutely necessary that it should be especially done on anything approaching to a heavy clay.

Your knolls having been tall, formed sufficiently high, preparation should be made to prevent the roots of the tree from going too deep into the ground, otherwise when the heaving of the ground, which the frost invariably causes, takes place, the descending roots will be torn asunder, whilst those which find a place near the surface and spread themselves out sideways from the tree will largely escape injury.

To prevent this downward tendency of the roots the Jesuits and the original French settlers on the island of Montreal invariably placed a large flat limestone under each tree, and this was found to accomplish the desired object as the roots could not of course penetrate the stone, and on reaching it would turn outwards and grow in a lateral direction from the tree.

But these large masses of stone are not always available in every locality, and even when they are they are cumbersome and heavy to handle.

The following has, however, been found an excellent and effectual substitute: Take the trunk of a pine tree, say about two-and-a-half or three feet in diameter, and from this saw off blocks from three to four inches in thickness, placing them so that there will be one about eighteen inches deep under each tree when planted.

These are easily procured readily handled, and appear to answer the purpose for which they are made quite as well as the stone: the pine wood when placed under the ground and away from the action of the air, enduring a long time, and is quite effectual in giving the desired direction to the roots of the trees.

It may not be inexpedient to say a few words as to the best locality for planting an orchard. Contrary to the expectation of many, it has been found that a northern slope is preferable to a southern one, as, during the warm days in spring, trees standing to the south are liable to sun-scald, whereas those planted on a northern exposure are rarely affected in this way, as the rays of the sun have a less injurious effect upon them, their position sheltering them largely from it. An elevated position is also much to be preferred to a low lying one, for the simple reason that the frost strikes the low-lands much earlier in the fall than it does the high ground, thereby seriously injuring the trees, through falling on the tender ends of the limbs before the new wood and terminal buds are fully ripe, causing great injury and not unfrequently eventually killing the tree.

And now, having thoroughly prepared the soil for the reception of our trees, and having selected the best locality at our disposal, the next and perhaps one of the most important things of all is the selection of varieties sufficiently hardy to withstand our rigorous climate.

For some reason which I cannot explain, it would seem that as the tree increases in its power of winter endurance its proneness for bearing winter fruit diminishes, and the summer and fall varieties take their place. Hence nearly all of our so-called Iron-clads are either summer or fall apples—very few late keepers of good quality having as yet been disseminated by our nurserymen.

In the list of early summer and short keeping varieties the Yellow Transparent and Tetofsky undoubtedly stand at the head: the first named receiving the preference in consequence of the inclination of the latter to drop its fruit.

The White Astrachan is also extra hardy, a free-grower and a long-lived tree. Its fruit is medium in size, greenish white in colour, tender in flesh, but often water-cored and wanting in juice and acidity.

In very favoured localities the Red Astrachan—which ripens about a week later than the White—might succeed, but with me it has not proved quite hardy enough, and therefore is not to be generally recommended.

Among the early fall apples we have a more extended list, and here the Grand Sultan and Duchess of Oldenburg contend for the first place. They are alike good for dessert or cooking, desirable in size and appearance, and what is all important—remarkably hardy. They always command a ready market, and pay the orchardist well for his trouble.

Following close on these in order of merit comes the Peach of Montreal,—of fair size, good in quality, but yellowish in colour, easily bruised, and showing the bruises badly, consequently, it is not so desirable, as it cannot be shipped to advantage. But for a home market it will be found very remunerative.

The Emperor Alexander is valuable chiefly in consequence of its large size, attractive appearance, and the considerable hardness of the tree.

The Wallbridge is also well spoken of, and generally recommended as being sufficiently hardy for our section of the Province.

And finally we come to the later keeping varieties. With me the two that stand out prominently above all others that I ever grow, for their hardness, showy appearance, desirableness of size, flavour, and good keeping qualities, are the Wealthy and the McIntosh Red. The former being a seedling from Minnesota, and the latter a seedling of our own province, it having first been grown by Mr. McIntosh in the county of Dundas. These are really two grand acquisitions to our list of hardy cold-resisting trees, and no Northern grower should think of being without them. Northfield Beauty, Magog Red Streak, and Scott's Winter are all first class, and although not of the very best quality are certainly of sufficient merit to deserve honorable mention here. I have several other very promising varieties under trial, but not yet sufficiently tested to enable me to speak of them with certainty.

As to the age and size of trees for setting in the orchard, my own choice is for young trees of not more than two or three years' growth from the graft, or one or two years from the bud, and not more than three or four feet high.

In pruning, leave on as many of the lower branches as possible, so that when the tree matures the ends of the lower limbs shall, if possible rest on the ground. Such trees have their trunks in this manner well protected from the injurious effects of the sun in spring, and are preserved from that splitting of the bark which so often occurs when the sap first begins to move at the opening of the season. In this manner an excellent receptacle is formed for the snow, where it lies protected from the winds, and being likewise sheltered from the melting influence of the sun it remains protecting and fertilizing the roots of the trees.

And now, hoping that this paper may be of some assistance to my co-labourers in our favoured districts, and trusting that it may be the means of inducing some one to plant who has not yet planted, and thus cause his home to be more beautiful, and himself and his whole household happier and more healthful, and the whole world better and richer for his exertions, I cannot, perhaps, close better than by saying with the poet—

"Plant thy trees, O Husbandman,
What though others scorn;
They will take root at last,
Sip the dew and kiss the sun,
Plant thy trees and sleep.

"In thy labours thou shalt live;
Dust alone is dead;
Ever fall the rain and dew,
Thy trees shall bear, though not for ever,
But the world is fed."

Since the above was written I have been able to see the effects of last winter's cold on my fruit trees. As it was an unusually severe one, being in short one of our "*Test winters*," I am enabled to make a few timely corrections. McIntosh Red, of which we had such good hopes, almost entirely failed except in very favoured locations, and we are reluctantly obliged to place it among the list of "almost hardy enough" varieties for those sections where the mercury sinks to 40° below zero in a reliable Fahrenheit thermometer.

MR. BEADLE.—I want to ask a question. I notice that Mr. Wright has mentioned an apple which originated in the county of Dundas, and has spoken very highly of it. I am glad to hear that. I have been informed by those who have been growing that apple in various parts of the northern New-England States that the fruit is likely to prove a failure there because of those fungus spots which we have already been talking about affecting the Snow Apple. I wish to ask Mr. Wright if he or any of his neighbours have had any experience yet in fruiting that tree, so as to be able to say whether it is likely to be subject to those fungus spots in his part of the country.

Mr. WRIGHT. I have fruited my trees for two years. They have borne well, and the fruit has been beautiful looking on the trees, but unfortunately boys obtained access to my orchard and carried off every single specimen I had. I would like to mention that the original tree is over eighty years old, and that there is something remarkable about the wood of it. You can go and take hold of these long slender limbs and put the whole of your weight on them and they will bend down without breaking. They are as strong as hickory.

Mr. GRAHAM. There are paragraphs in that paper that I should certainly join issue with. There are a great many gentlemen here who know that placing a stone under a tree will not prevent the roots going down. It is well known that the roots spread a considerable distance over the ground. It is well known that they will spread about as far as the branches do. It would take a good deal of stone or wood to go under all that. I do not think it would be necessary in that section of the country to plough as he says. We have droughts in the summer and we know very well that with land ploughed up in the way the gentleman describes the water would run off immediately, and therefore the roots of the trees would receive very little moisture. I have seen shade trees actually die from drought in the summer. We should prevent that as far as possible by having our ground well underdrained, and we should have it as level as we can. It is essential that trees receive moisture from the ground to support their growth. You cannot, I think, have an orchard too level. You want no ridges or knolls to plant trees on in this part of the country. I am speaking only of our own district. I know nothing of the "cold north."

Mr. WRIGHT. I wish to say here that I think the gentleman who has spoken is quite correct with reference to climates which are more mild than ours. If I were planting an orchard here I would never do anything of that kind at all, but planting in the north I would not plant in any other way.

Mr. CROIL.—In answer to Mr. Beadle's question, I am very sorry to say that my experience with the McIntosh Red is as he has stated. I planted out about a hundred trees of it: they have just come into bearing now, and I am pretty sure the fruit they bear will spot as badly as that of the Fameuse does.

The PRESIDENT. I observe in connection with the discussion of this paper that item No. 3 of our programme reads as follows:—"Discussion on this paper, and as to whether we have reason to believe that Russian fruits will thrive in our cold sections, and meet the needs of our people residing there." I do not know anyone better able to say a few words more on this topic than the gentleman who has read the paper.

Mr. WRIGHT. I am hardly qualified to answer that question as it should be answered. I may say that we have been trying a great variety of what we thought the hardiest trees we could procure: and wishing to get something that was more hardy than anything we had, I wrote a year ago to Mr. Budd, in Iowa, asking him to give us some of his Russian varieties, and telling him that if he would I would endeavour to have them circulated as largely as possible about our locality and report to him every year. An arrangement was come to whereby I got 200 of these Russian trees, and they were circulated among persons in our locality in fives, and these persons were to report to me and I to him. They were only planted last spring however, and I am not able yet to speak as to their hardiness. I was last year a judge of fruits in Montreal, where they had about forty varieties of Russian apples, and I must say that I was somewhat disappointed in the quality of the fruit. The trees appeared to be pretty hardy from the reports they gave: but the quality of the fruit was nothing in comparison with that of the seedlings that these people in Montreal had on exhibition there. There were, however, three or four varieties that were very good, and if the trees will prove hardy enough for our section they certainly will be a valuable acquisition for us, but at present I am unable to say whether they will be hardy enough or not.

Mr. MORRIS.—There is a peculiarity about the growth of Russian apples, that is, they make their growth early in the season and stop. They do not make a late growth like our American varieties, and I think this is one reason of their hardiness. It is a feature that I think will tend to fit them for our colder sections.

Mr. BEADLE. There are two or three points with regard to the Russian apples that

need to be noted. First, the trees that were introduced into America by the United States Government were got from the western coast of Russia—what might be called the Baltic coast—near Riga, where the climate is very different from our climate, and very different from the climate in Northern Russia. The apples, too, that were brought from Russia by the American Government were not strictly Russian. They were German apples that had been taken to Russia to be experimented with there, and some of them had been there but a very short time, and had not been thoroughly tested as to the climate, but the American consul who had charge of the matter seemed to think that everything from Russia would just be what they wanted, and so the apples were taken promiscuously from the botanists' lists there and were sent to the United States as Russian. Then as the word "Russian" conveyed the idea of Siberian we thought these trees must be hardy. They were scattered abroad over the United States, and the result has been great disappointment. In the first place, many of them were not hardy and in the next place many of them were not of good quality; and the result has been that some have denounced the whole of the Russian fruits. Mr. Gibbs went into north-eastern Russia, where the climate is just like ours, dry and hot in summer, cold to freezing the mercury in winter; and he found there a class of apples that, as Mr. Morris has said, make their growth early in the season and then stop—do not push out again—harden up their wood and get perfectly ready for winter. In addition to that the leaf texture was of that peculiar kind—thick and glossy—that would bear the drought—the heat as well as the cold—would bear the extreme changes from a hot, scorching sun to almost freezing weather when night came on. The result is that they have there a class of apple that we may hope will be valuable for our cold north. Now, as to the quality of these apples. We must not expect, from all that I can gather, that they are going to be like our Fameuse or our Pomme Grise, or perhaps many of them equal to our Baldwin, although I think from what Mr. Gibb told me that many of them will be equal to the Baldwin. I think we cannot look for a very high quality in those apples, but that we may expect to find them apples which will be suitable for our cold districts. The Ontario Government have requested the committee of the Association who have charge of the planting at Guelph, in connection with the Agricultural College there, to import from northern Russia scions and trees to a limited extent—a few trees and a few scions of such of these varieties as Mr. Gibb thinks will be likely to be profitable. This is being done; and these will be tested at Guelph, where I am told the thermometer went down this winter to 40 below zero.

MR. GOLDIE.—I have a few trees, about half a dozen probably, of Russian apples; that is, of the earliest importations by the United States Government; and they are just of the character Mr. Beadle says. I do not think they are any harder than the average run of our own trees here, and the fruit has been very small. Trees that ought to have had at least a bushel of fruit would only have three or four on them. They seem to be very shy bearers.

MR. WELLINGTON. There is no question but this importation of Russian apples is in its infancy. There have been mistakes made owing to the loose manner, or perhaps I might say, ignorant manner in which the first scions were obtained. The idea was that because they were Russian they were hardy; but, as Mr. Beadle has stated, the temperature of the Baltic coast is as mild as that of a great portion of Canada. But if we can get apples from a more north-easterly region we shall get apples which can be grown in the colder parts of Canada, where our best fruit cannot be grown; and this is an object which it is desirable to attain. I have in my hand an abstract from a report which Mr. Gibb, who has recently returned from Russia, is about to read to the Montreal Horticultural Society, and in it I notice this: "There have been many drawbacks to the introduction of the Russian apple. Nomenclature in Russia is most confused; that of the department list is no less so. We have duplicates under different names, confusion of names as to types and families, evident mistakes. In Dr. Regel's work on Russian Pomology the lists of synonyms show how confused is the Russian nomenclature. If Spitzenberg's and Northern Spy were synonyms of Golden Russet, the case would be somewhat parallel." That is only one of the drawbacks they have been labouring under with these Russian fruits. But I think that in time we shall be able to sift out those that are not desirable by testing, and that we shall obtain varieties that are good. I have been very much interested in Mr.

Gibb's letters and report since his return from Russia. Through his courtesy I obtained the address of a person in Russia who has the best varieties. We have imported about sixty of them, and I hope after they have been thoroughly tested we shall be able to do a little in the way of stating what varieties of them are desirable.

The PRESIDENT.—The number of letters I have received of late from the northern parts of Ontario and from the North-West on this subject indicates that there is a very widespread desire to get these fruits as soon as they are obtainable.

Mr. BUCKE.—I understand from Mr. Gibb that he has been so far north that the apple and pears and cherries have been so dwarfed by the cold that they were little larger than black currant bushes. So if they can grow apples where the climate is so cold as that, I see no reason why we should not grow them in Canada.

The PRESIDENT.—Mr. Gibb describes the trees in those cold districts as very small, and says they grow them two or three in a hill.

PROTECTION FROM COLD.

The next topic to be discussed was the following:—"What is the best method of protecting those plants, shrubs, and trees that are not quite hardy enough to withstand the severe cold of our Canadian winters without protection?"

Mr. WOODWARD.—Our climate is not very cold as a rule; but my observation is this, that it is not the cold that kills: it is the sun. I think we will find in ninety-nine cases out of a hundred where a tree is reported to have been killed by the cold that it has been killed most on the side on which the sun shines. If I want to protect any kind of plant in my ground that I am afraid is a little tender I uniformly take care to protect it from the sun, and it will protect itself from the cold. Take almost any plant that will stand the cold at all and put up a board at the south side, or a bundle of corn stacks—anything of that kind—and it will generally stand the cold.

Mr. BUCKE.—The best protection to vines and rosebushes and things of that sort is to lay them down and cover them with soil. It is very difficult to protect any tree that you cannot bend down at all. I have tried protecting peach trees by putting them over on the side and growing them on the cordon system. But I have not succeeded very well in protecting them.

Mr. PARKER, Woodstock. I have followed the practice that has been indicated by Mr. Bucke with raspberries, turning them down and covering the canes with earth so that the snow would cover them. I have also treated grape-vines in the same way, even those that were hardy enough to stand the cold of a very cold winter. This seems to improve them, or at least to save them from showing a certain amount of weakness during the summer.

Mr. MITCHELL, Innerkip. —In my experience I have found that there is nothing like protecting them with evergreen boughs. I have tried straw and leaves; and in some seasons there would be mildew and I would lose something in that way. I covered my raspberries this winter altogether with evergreen boughs. Last year I tried leaves and straw. I covered the row with leaves; and I had a tender rose, the Louis Van Houtte, which wintered very well. I had a hardier rose which was not covered, and it perished. I also cover my blackberry bushes in the same manner.

Mr. BEADLE.—I would like to emphasize what the gentleman from Innerkip says. I have had a great deal of experience in protecting small things, and I have found nothing equal to the evergreens; and if the plant is so large that you cannot just lay the boughs on it, stick them into the ground before the ground freezes around it, and they make sufficient shelter to protect it. Even sometimes putting a barrel over a plant—nothing but a barrel—seems to smother it; the plant will come out decayed in the spring.

Mr. WOODWARD.—I think the great error in covering tender roses with boxes, barrels, or anything of that kind—or in fact in mulching strawberries—is in putting the protection on too soon, when the ground is warm and full of moisture. We put this on then and it steams, and when the winter comes on of course it freezes. I first let the ground freeze so as to avoid this excessive steaming and moisture, and then put a box over.

Mr. WELLINGTON.—I would strongly advocate protecting your orchards by wind-

breaks. Plant belts of Norway spruce or arbor vitae, and that is the best protection you can give to your orchards; you cannot well protect the trees individually. The evergreen will always be a great protection to the orchard. For protecting shrubs and roses there is nothing, I think, to equal the evergreen boughs. Protecting with leaves eight or ten inches deep is a good way.

Mr. GORR.—The great want of this country is belt protection for our orchards. Our native pines are excellent for that purpose. Our spruces and our balsam firs cannot be beaten. We want these around our orchards, around our homes, even around our fields, for protection. It is getting to be more and more the great question of the day. How shall we protect ourselves from these biting, frosty winds that are destroying the life of not only our vegetation but of our animals also?

Mr. GRAHAM.—I would like to ask the gentleman who has just taken his seat what portion of his orchard he would protect by the belts of trees.

Mr. GORR.—I should say that every portion should be protected. Of course the location will make a difference. In some parts of the country we are subject to fierce winds in one direction, and in other parts from other directions. The side toward which the fiercest winds come is the side on which the protection should be most substantially placed; but it would do no harm to have this protection all round the orchard, say 10, or 15, or 20 feet from the fruit trees, and that belt so placed that when the trees are growing up they will thoroughly protect against the winds. I have in my mind now a little belt of pine that is near where I am living, and on the coldest and most fiercely windy day it is quite mild on the sheltered side; and if that is the case when the belt is a small one, the protection would be much greater when the belt was large. Other trees will form a very good protection against the wind, but our evergreens are better for that purpose.

Mr. WRIGHT, Renfrew.—I have had considerable experience in protection. I have repeatedly seen barrels and boxes put over small trees, and over rose bushes and such things, and whenever I employed that means it invariably killed them. Then I undertook to wind the trees about. I found that if I could get my trees to grow for three or four or five years they seemed to get accustomed to the climate, and were hardier than they were in the earlier stages of their growth. So I went to work and bound them all round with a kind of rope made of straw—commenced at the bottom and bound the whole trunk up to the top. I took it off again in the spring, and I then found that everywhere that that rope had gone the bark was just as black as it could be, and there was a spiral groove of green all the way up. I gave that up. Then I put cornstalks around them, thinking I had wound the trees too tightly before; and then the cold winds came, and the snow came; around the root of the tree there was a hollow where there was no snow. The wind seemed to have circled round the tree and blown the snow away. The consequence was the roots were not protected, and the frost went down and killed everything I had attempted to protect in that way. I find the best plan is to take evergreens and protect the roots in a flat way, and then the snow remains there. I find pea straw a remarkably efficient article for protecting with. I can protect better with that than with anything except it be the evergreen boughs. We have to cover all our grapevines every year, and I find that earth is very good for the purpose—the best protection perhaps that we have, unless the fall is very wet. If you are growing your grapes on a wet soil, and your ground is wet in the fall, you will be sure to kill your vines if you cover them in that way; but if the soil is dry, earth is as good as anything you can protect them with. With reference to strawberries, I find that it is not a good thing for me to cover my vines at all. After the frost has come into the ground I cover every single particle of the bed except where the plants are, and then it does better than if we covered the whole ground. We have a good deal of snow, and if we cover the whole ground the plants are likely to smother. I find, as Mr. Woodward says, that it is better to let the frost come before covering.

Mr. STARK.—The protection harbours mice unless the ground is well frozen, and of course mice are very destructive in the orchard. When you cover the plants with leaves I think it would be much the best plan to knock the top out of a barrel, put it over the plant afterwards, and then scatter the leaves in. I have also found in my experience that if you have a grape vine for instance at the front of a house or barn and put boards up

against the grape vine, close together so as to shut off the wind, it is a better protection than earth.

Mr. GRAHAM. About thirteen or fourteen years ago there was a very severe winter in Michigan, and one of my neighbours had a very fine peach orchard in a good situation, and it was thoroughly protected on the north and west by a very thick undergrowth of oak. During that winter we all thought we were going to lose our peach trees except this gentleman. In the spring it turned out that his orchard was almost entirely killed, although having this protection, while another orchard within a quarter of a mile of him, standing out so as to receive the bleak, cold winds of the north, came out unscathed. From that time up to the present we do not ask for any protection for any of our standard trees. We think that the cold air settled down around his trees behind the protection, and there was not current enough to take it away. If we use any protection at all we have it on the east side of an orchard. I would not have any objection to protection on the east or south; but we will not have any on the north or west. We have proved and demonstrated from that time up to the present that our trees are better to have the full current of air, and we select locations in which they can have that as the most profitable.

Mr. BEADLE. That remark about southern protection corroborates Mr. Woodward's idea. I think that in certain localities where the cold is not exceedingly intense, as it is up in Lindsay, it is not so much the frost as the sun that injures the plant. On the same principle, I suppose, that if we freeze our hand and take it into a warm room we soon have considerable suffering, but if we stick it into a pail of ice cold water the result will not be so bad.

Mr. STARR.—In the fall I had some geraniums. I got up one morning and found the ground was very much frozen. The geraniums were pretty well frozen too. I took a board and covered some of them to keep off the sun, and those that I did this to perfectly recovered, although they had not been under cover the night before, but those that I did not cover the hot sun after the freezing completely destroyed. So I came to the conclusion that the hot sun upon the frozen plant and ground did much more to destroy than the severe frost.

Mr. GOLDIE.—Any person having an outhouse needs only to have a little earth in it in which to hill up his shrubs for the winter in order to be able to put them out all right again in the spring. A very small building will hold a great many trees and shrubs. In that way a great many that it would be hopeless to have grow out doors can be successfully grown, and with much less trouble, I think, than if they were protected in a border.

NON-PROFESSIONAL FLORICULTURE.

Mr. Frederick Mitchell, Innerkip, read the following paper on the above subject.

In compliance with a request from our respected Secretary, asking me to prepare a paper to be read at this meeting, I have jotted down a few irregular remarks on non-professional floriculture:

As may presently be noticed, I have paid very little attention to order of arrangement, and neither will there be any deep research or profound thought manifested.

The ideas or opinions offered may or may not be correct, as they are entirely and only founded on my own experience or observation; and as such I offer them for whatever they may be worth. As the subject is one of very wide range I can only briefly notice certain leading matters in connection with it, such as a few of the best plants to grow, modes of heating, and expense of conservatories, pottery, soil, insect enemies, who should engage in floriculture, etc., with a few general ideas that happened to come uppermost.

First—as to those who should engage in: it should be those, and those only, who have at least a small modicum of natural inbred taste or love for flowers. It is almost painful to see what, under more favourable circumstances, might have been beautiful plants struggling for existence in the hands of persons not possessed of this attribute.

All persons who have taste for this pursuit can and should engage in it, but of course in a manner consistent with their means and ability.

The very poorest should engage in it; it is a pleasure within their reach the labourer

or the labourer's wife can produce, and possess, of some varieties of plants as beautiful specimens as the richest nobles in the land.

The rich should engage in it to a greater extent than they do, and to spend their money more judiciously as they do. They are young, but they are not so rich, no more of spending a few thousands of some rare plant than they do when spending it on some old manuscript, or piece of china, and should make as complete and costly collections of plants as they do of either the one or the other.

Ladies should personally and actively engage in it far more than they do. It should be a particularly interesting amusement for them, and this amusement is more attractive than when engaged in the duties of the conservatory or garden. Ladies of rank and everyone to a greater or less degree should take part in it who can take any pleasure in the beauty of a plant or flower. While on this matter of taste I would condemn an effort that is being made to introduce a false standard of taste, by making certain plants fashionable, and thereby exalt single Dahlias, single Crysanthemums, and several other flowers, both single and double. People who do this have no real taste, and never did have any. Real taste is neither affected nor circumscribed by any such narrow rules. Moreover, there is always plenty of room in this respect in our own persons, in the matter of dress, to show what fools we can be when we want to without encroaching on the beautiful floral world.

With regard to the conservatory, which seems naturally to take precedence at this season of the year—and which is really indispensable in the culture of flowers in our (even to make the best of it) rather wintry country—we are enabled by the use of it to have flowers through all the dreary winter season, to preserve many plants from year to year which we could preserve in no other way, to have a supply of seedlings and other plants ready to transplant to the garden as soon as danger of frost is past, and to grow certain exotic plants which will not succeed in the open air. This need not be so expensive a luxury as many who are not familiar with the subject suppose it to be. Of course fancy conservatories cost fancy prices, but where economy is an object it is possible to build a small one, say of 10 x 15 feet dimensions, with brick smoke flues for heating, for \$30. This can be heated throughout our longest and severest winters, with from two to three cords of wood. If any walls are used other than glass, double boarding with tarred paper between is the best.

Heating it with water where practicable is the best mode practised; that is, it produces the best results. Heating by steam also produces good results, but is expensive and requires close attention; it is only when used for heating an adjoining dwelling that it can be used to advantage.

Hot air can often be used with little extra expense in conservatories which form part of a dwelling, but unless attention is paid to obtaining a proper humidity of the air the result will not be satisfactory.

The ordinary method of heating with brick smoke flues is the cheapest, and is to be commended in several ways. The most serious objection to it, however, is that some plants (and noticeable among them is the popular *Geranium*) will not bloom freely where this mode of heating is used.

One of the first elements of success in the conservatory is good potting soil. Never use soil that has been long in cultivation, such as ordinary garden soil. The best soil can be obtained amongst standing hard-wood timber. This will neither bake nor turn sour, as older soils are apt to do. A man with a horse and waggon, and equipped with a coarse screen and shovel, can procure enough good healthy earth in an hour or two to last any ordinary conservatory for a year at least. When preparing to dig it, first rake off the bulk of the undecayed leaves. The vegetable mould with a portion of the surface soil beneath is that which must be appropriated, at the same time using a screen to screen out sticks, etc. This with a very little well-rotted manure will make a soil suitable for almost all plants.

Use fertilizers very sparingly, and with great caution; it is easier to overfeed some plants than it is to starve them. A flower-loving friend of mine, and who has for years enjoyed the beneficial teaching of this Association, but who, like many of us, must be possessed of more enthusiasm than judgment, lately fed a Chinese Primrose so liberally with superphosphate as even to destroy the pot which it was in. The plant being of course

equally as tender as the lot, succumbed also. This is an extreme case, but there is a great amount of harm done by the injudicious use of fertilizers.

A wise selection of plants in the first place will do much to avoid after disappointment. Choose plants that will require nearly the same degree of temperature. It is quite impossible to grow successfully all kinds of plants in one (and that perhaps a small) conservatory.

The most valuable plants for blooming in midwinter are the Chinese Primrose, Carnation and Cyclamen. These plants take up but little room, as they should not be grown in small pots. They will bloom quite as abundantly without direct sunlight as with it, and do not require a high temperature. The Chinese Primrose is the most valuable of all, and in winter a conservatory is not complete without a large collection of them. Although not the most valuable blooming plants for this season, there are many others that can be made to bloom in midwinter, and are very desirable. Among these are Fuchsias (particularly light varieties), Geraniums (where steam or hot water is used for heating), Abutilons, Amaryllis, Cupheas and others. Narcissuses, Hyacinths and Ranunculuses can be made to bloom at any time from midwinter until spring. All the others named can be made to bloom in any or all of the winter months.

Most of our winter blooming plants should be planted outdoors in the summer, and if possible on the north side of a building.

The worst of the indoor pests of the conservatory are the green fly and the red spider. The green fly is a species of aphid, and can be destroyed by applying weak tobacco-water to the plant. The red spider, as it is called, is a very small insect; so small that it is often unnoticed by inexperienced florists even when very numerous. Although called a spider, it has not much the appearance of one. It is very injurious; plants infested with it quickly assume a sickly, blighted appearance. Whale oil soap-suds applied to the underside of the leaves is the best remedy.

And now for a word or two about the garden—and that chiefly to those who are in the earliest stages of floricultural enthusiasm. In the first place, don't attempt too much on the start. One perfect flowering plant is worth more than any number of half-developed, neglected ones. And besides, this should be a pleasure, not a labour. In planting, or in sowing seeds, use some foresight. Consider the effect desired, and use such kinds as will produce it. For a continuous display of bloom, use such plants as Petunias, Geraniums, Phlox (annual), Dianthus (annual) Verbenas, and others. For cutting for bouquets there is nothing so valuable as Feverfew and Matricaria. For show at autumn there is nothing that will equal the Gladiolus, Dahlia, perennial Phlox and Salvia Splendens.

There is far too much of a medley of plants in many of our gardens. In most cases, plants that bloom but once should be planted with several different kinds together and with due regard to succession of bloom, that beds may never appear altogether barren; but plants that bloom continuously generally appear to the best advantage, massed in beds or bunches by themselves. The best soil for a garden is a rather light but not too light soil. It is imperative that it be well drained, that bulbs or the roots of perennial plants or shrubs may not perish in the winter. Annually enrich the soil with well-rotted manure, and the majority of plants will respond generously. There are, however, exceptions to this rule and notable amongst them is the lily.

But after all the chief requisites in successful floriculture are not in soil or fertilizers, but in the would-be florists themselves. If these possess a never-fading love for flowers, backed up with common sense and quickness of judgment, a certain amount of success will be attained whatever the soil may be or the fertilizers used. In connection with the mention made of a need of a quick, self-reliant judgment, and as an illustration of the want of it, I may cite the case of a lady who lately wrote to the editor of an American horticultural journal, asking advice as to the treatment of a Cyclamen bulb which she had planted, which was sending up its leaves from below; to which the editor replied that the bulb had evidently been planted with the wrong end down, and the proper treatment in this case was to turn it over. A person who is forced to send a thousand miles for advice before turning a Cyclamen bulb over will never attain to prominence in floriculture, nor perhaps in anything else.

The worst insect enemy the out door florist has to contend against is the omnivorous, disgusting slug, and the ground or root aphid. There has not been anything discovered which will effectually destroy these pests, and at the same time cause no injury to plant life. Common salt will destroy either of these insects, but it is almost as injurious to plants as to insects. Tobacco water will destroy the aphid, but it is not only injurious to plants but it is also too expensive for ordinary use. The person who shall discover something that will rid us of these pests will indeed be a benefactor to mankind.

As to the culture of the lily, it may be said—to use an hibernianism—there is no such thing, neither cultivation nor susceptibility of improvement. “Consider the lilies of the field how they grow; they toil not, neither do they spin; and yet I say unto you that even Solomon in all his glory was not arrayed like one of these.” These notable and beautiful words which were spoken many centuries ago are generally regarded as an illustration of the futility or uselessness of all earthly efforts and endeavours; but they also contain a true, epitomized representation of the lily itself in its beauty and native intractability. Everyone who has a garden should try the experiment of planting a few lily bulbs. They may not succeed. Lilies cannot be persuaded to grow in some soils and locations; but the experiment is well worth trying. The only special treatment they require is that the bulbs should be planted at least eight or ten inches deep and be kept moderately free from weeds. The very best are the *Lanceolatum* varieties—the *Candidum* and the *Auratum* or Golden-Rayed.

The only insect enemy is the larvæ of the May beetle. Anyone with a proper soil and location can have lilies; if these natural conditions are favourable it is the easiest grown of any of our flowering plants. The ever popular rose is in most of its characteristics quite the reverse of the lily. Its cultivation is attended with more difficulty and disappointment perhaps than any other flowering plant or shrub. It requires a good soil, and constant manuring. It cannot receive too much petting and nursing. If neglected for a single day in the spring or early summer, it will show the effects of it. It must be protected in the winter, and that just enough; if too lightly, it will freeze; if too heavily, it will rot. It has almost all of the insect enemies of other plants, and also others that are exclusively its own. It is also very prone to mildew; and, altogether, its culture should only be attempted by those who are in the most advanced stages of floricultural enthusiasm. This is not intended, however, to in any way discourage the cultivation of this most beautiful of all flowers. The few who are willing and able to give it the care and attention it requires can and should grow the rose. In concluding these rambling remarks, I may say that horticulture, although not possessing any practical dollars and cents utility, is, at the same time deserving of far more attention than it has hitherto received in Canada. We cannot engage in rigidly practical labour all the time. We all need a certain amount of pleasure and recreation, and there is no better place to seek these things than among the flowers.

Mr. GILCHRIST. As a general rule I find that when people complain of failures in floriculture, it is owing to their having potted in too large pots. They put little slips in six or eight or ten inch pots. The proper potting of plants is a thing that is not very easily learned. It is in the potting that we get the drainage; and if we pot in too large pots there is bad drainage. We commence with very small plants, and gradually bring into use a larger and a larger pot. For instance, if we commence with a three inch pot we take a four inch pot next, and then a five, and then a six. If you turn the plants out of a pot and the roots are black the plants have been too long in the same pot. In regard to soil we find nothing better than turf rotted; that is, turf taken from the roadside, and a little manure with it, and probably a little sand if there is not enough sand in it. We prefer that for almost all plants except for the rose; for that we use it a little heavier and fresher. A great many people have an idea that if they get peaty soil for plants they are all right. There is no greater mistake. We prefer a soil of a yellow nature. In regard to protecting roses in winter I think that the plan that we adopt suits us the best of any. We prune very close. Anyone who has grown roses knows that we get the best flowers and the strongest shoots in that way. We prune very close to the ground, and draw the earth up around the plants in little mounds, which in the spring we take away. I think

if we would prune all our hybrid perpetuals close to the ground we would have better success with them.

Mr. PARKER. I have not had a great deal of success in the cultivation of flowers and roses, but I have a very simple plan of protecting them. I lay down the rose and cover it with leaves, and when I uncover it in the spring I find that it is quite fresh. In some instances the buds have begun to shape before the leaves are taken off. One season a keen frost came and they were set back, and we had no roses that year. I now adopt the plan of driving a stick down alongside the bush. I then gather the branches together, tie them with a string, and put a hoop around the bottom. I put ordinary rye straw around the inside of that hoop, and then put on another hoop around the top; and I find that that is sufficient protection to enable them to come out all right. My grapevines I cover with earth. Three years ago I took them up; they started very early; there was a late frost, and I had no fruit that year. The next year I covered them with evergreens, and I had not much more success. Last year I allowed them to stay up on the trellises and take their chances, and I had a better crop before the frost came than I had had for the last three years. If you have a wet, warm season and protect them too much you injure them. I think the best plan is to select a fruit that will stand the climate without much protection. If you do that, and do not have to nurse and protect it, I think you will be more successful than if you attempt to cultivate those more tender things. I should have liked to have heard something more about the keeping alive of the best old varieties of fruits which we now have but which are going out of existence, rather than to have heard so much in regard to new fruits as to the value of which people differ so much.

Mr. MORTON, Wingham. I am an amateur in floriculture, and I think I have had more failures than any other man in the country. But in the course of my experiments in trying to make perfect manures for the smaller fruits I have also experimented on flowers. There is one very beautiful flower that I have had very great success with in the garden, that is the Pansy. I can secure—I can say it without egotism—better flowers in my little garden than I have ever seen on exhibition. I give the plant sufficient room to grow, allow only one flower to grow on each shoot, and pick off every flower but those I want to grow. I am a firm believer in the pruning of flowers as well as of everything else. I think it has a beneficial effect on the growth of the plant. With regard to the grapevine, a friend of mine adopts this plan. He does not lay down his grapevines at all, but he prunes them back to the two lateral branches, and tacks a piece of cotton on the framework on which those are placed, and turns that over to protect them. He says it is not the frost that kills them, but the sun. I am a firm believer in manuring the ground very heavily, if you want to grow good flowers. Some people will say, "Oh, your plant will grow all to top." So it will if you do not look after it and prune it. I have tried to grow roses until I have got sick of it. So many things have come in the way of my growing them that at last I have come to the conclusion that I had not adaptability for growing them. The insects would cover my plants more than my neighbors'. I have tried tobacco water on them, and it has been useless. I have found whale oil soap water the best protection against the fly. The great difficulty in the section where Mr. Wright lives seems to be that the roots freeze. Now, where I am living at present, in the north end of the county of Huron, the severest winter that we have had during the last six years the ground has never been frozen more than a foot deep. In the centre of my garden last year there was not one inch of frost, and the year before I do not think it went over two inches deep. The other day I went out and shovelled up the ground, and there was no frost whatever in the centre of the garden. One year I covered my roses with boxes. I also covered in the same way some raspberry plants, and I do not know whether they got smothered or not. The next year they did not grow, but the roses came through all right. I think the reason the roses did so well was that they were on a border a foot or so higher than the ground the other plants were on, and that the ground in this border had got frozen, whereas the ground in the centre of my garden had not frozen.

Dr. CROSS.—I never covered plants much. I did try it some years ago. I tried it with grapevines one season, and I had the same experience that a gentleman mentions—that when I took them up the frost killed them. I have come to the conclusion that in

my old age a shrub or a vine that needs protection I shall not attempt to grow. Some years ago I got from our secretary twenty four varieties of roses at one time. They are all living yet, and have all done very well except for the insects. I prune them moderately closely. I cover the roots with mulch in the fall, and keep them well cultivated. The roses are good. The greatest objection I have to them is that they do not last long enough. The greatest trouble I have had with fruit has been from the blight on pear trees. I planted an orchard of 300 trees about twenty years ago. Two thirds of it has been planted twice, and part of it six times. I have never lost but one Duchess D'Angouleme from blight. The others have all blighted. The Bartlett withstood the blight the best of all but the Duchess D'Angouleme.

MR. STARK.—Last year I tried Paris Green on my rose bushes, about a half a teaspoonful to a pail of water sprinkled on them, and I thought it had a very good effect. I have seen a good many letters in the agricultural publications asking which was the best syringe to apply Paris Green with. Well, I think I have found out the best one, and the one which will meet the wants of the community generally. It is a syringe that is being sold very much around here—I do not know what they call it. It is made of tin and has a bowl at the bottom, and it only costs, I think, about a dollar or a dollar-and-a-half. It is fitted with three nozzles. One nozzle throws a spray, another throws a perpendicular shower, and another throws a horizontal shower, so that you can throw the Paris Green over the highest trees in the orchard, and you can apply it to the lowest branches in a very diffused and wide-spread shower. I would like to find out the name of the syringe. I could never find out its name or where it was made.

MR. GOLDIE.—I think they are made in Hamilton.

MR. BEADLE.—In partial reply to the question Mr. Stark has raised in regard to the application of Paris Green on rose bushes I would like to lay down this general rule, that any creature whatever that eats the leaf of a plant—I do not mean that eats it underneath, but eats it through—can be killed by an application of a mixture of Paris Green and water in the proportion of a teaspoonful to a pailful of water. But this has not a particle of effect in my experience on the little thrip that attacks the under part of the leaf, for the simple reason that this thrip is not furnished with jaws to eat the substance of the leaf. As to the form of syringe, I generally use the ordinary straight one which is so commonly used in greenhouses, and which can be bought in almost any hardware store. Sometimes I have seen them made by a tinsmith. But I think you can get along very well without a syringe at all. I do not know anything that would prevent one applying that remedy with a whisk. Dip it into the water and Paris Green and use it for sprinkling the bushes.

A MEMBER.—Would you tell us how to destroy the insect you speak of that does not eat the substance?

THE PRESIDENT.—I have not yet found anything that is entirely satisfactory. If you put a few live coals under the plant, put a little tobacco on them, and then turn a barrel over the plant the tobacco smoke will kill them. That and a solution of whale oil soap are the only remedies I can recommend, unless Pyrethrum powder will answer. I have been experimenting with this powder, and am rather favourably impressed with the results; but I am not able to say anything very definite about it yet.

MR. STARK.—I used the Pyrethrum last year, and I find it has a good effect on house plants, but no perceptible effect on rose bushes. It killed the insects on the house plants effectually. For two years I had excellent crops of plums. I sprinkled the trees with Paris Green, and I have since then had excellent crops of plums; before that I had not any at all. Whether this was owing to the Paris Green or not I am not able to say.

THE PRESIDENT.—Last year I sprinkled some trees with a mixture of Paris Green and water about the time the curculio makes its appearance, that is soon after the fruit was set, and I must admit those trees seemed to produce a better crop of fruit in proportion than those that were not sprinkled. I also jarred them, because I had so little confidence in the Paris Green that I was unwilling to neglect any means that might possibly help to destroy the insects.

Mr. STARK.—I commenced the application of the Paris Green before the fruit was formed, and I did not jar the trees at all.

Mr. PARKER.—I saw an account last year in the paper conducted by our secretary of some gentleman in Rochester having been experimenting with Paris Green in his orchard, and I got some Paris Green and put about a teaspoonful to a pail of water, and took an ordinary rubber and brass syringe that I have, and syringed my plum trees for as far as I could reach standing on the ground, and I think it had a very beneficial effect on them—so much so that I had the greatest crop of plums on them this year that I ever saw on them in my life. Sometimes you could cut off eighteen inches of a limb and you could not see the wood, the plums were so thick. I am only afraid that the crop was so great that the trees will not bear so well again, because I did not thin them.

Mr. BEADLE.—I was going to suggest to Mr. Parker that he had better have let the curculios thin the plums out a little. He will not have as good crops of plums in the following years as if he had thinned them out some.

Mr. VROOMAN. I suppose that in planting out a garden it is desired to get a display of either flowers or shrubs for the season. Then by sowing phlox and verbenas we can get a display from May until the frost in November, and late in the season we can get a good display from the dahlias. If we want a little better bed we can use the coleus. We can get plant protectors at about a dollar or a dollar seventy five cents a dozen, some of them made of galvanized iron and so constructed as to give plenty of ventilation. You can set your plants out early in the season when you protect them in this way, and thus have very large plants by the middle of June. I believe in getting all we can out of a plant and then throwing it away.

Mr. ROSE, Woodstock.—I do not think that any person who has paid any attention to the subject can have failed to notice and be much pleased with the strides we are making in flower culture. I have lived in this town ten years, and I think the attention now devoted to flowers is at least ten times as great as it was when I first came here. As a consequence, the cultivators of flowers are gaining great proficiency in it. The greatest mistake in growing plants has been in attempting to grow too many; but we have now got pretty well over that, and the greater proportion of the people of this town are now almost as well posted in regard to the proper treatment of single plants as those who ordinarily follow the growing of them as a business. It is true there is a great deal yet to learn. The great trouble is that our seasons vary so much that you cannot calculate to-day what sort of weather you are going to have this day next year, even with the aid of Mr. Vennor. There is so much difference in temperature at certain seasons of the year that with the same covering our plants will some years rot, and other years come out nice and fresh. This matter is one in regard to which every one must use his own judgment.

The PRESIDENT.—We have covered roses with straw and have had them come out nice; and we have covered them with leaves and had the same kind of success.

Mr. WRIGHT.—In protecting with straw we have always used the wheat-straw. It is looser than oat-straw, which it would be dangerous to use. If you would allow me a digression I would like to make a remark with regard to a point brought out by the gentleman from Michigan. My ground is high, and for years I have been free from early frosts in the fall. My corn and tomatoes would escape when those crops on low grounds around town would be destroyed. Last fall mine were cut off when those of my neighbours were not, showing that there must be different currents of air which have different effects on cultivation.

Mr. DEMPSEY.—I have not had much experience in the cultivation of flowers. In rose culture I continued to fail year after year for a great part of my life. Finally I got hold of a very nice work published by the Rev. Mr. Hole, of Scotland, which set me right; and that simply told me to maintain vigour in the plant always and at any expense. A vigorous growth may be maintained under some circumstances by shortening back or by using fertilizers liberally; but in all the hybrid perpetuals I find it is very much better to shorten them. When they bloom in the spring, shorten them in at once and you get a nice autumn bloom. We have no difficulty in protecting our roses. Probably we are not bothered by winds so much as people farther south. At any rate we find that all

that is necessary is to protect the tip end of the plant. Supposing we shade it, invariably we endeavour to protect it from the sun in winter, and our protection is simply to turn the plant over and cover the tops, so that both ends of the plant are protected. Sometimes we use straw or something else, but in every case, if we can, we allow air to circulate under the plant, and we shake the roots when in bloom. Any of you who have never tried it would be astonished with the advantages that are gained by shading—to the extent to which the beautiful tints will be brought out by using a partial shade when the bushes are in flower. This may be easily done by taking some laths, if you do not care about using anything expensive or ornamental to your place, and laying a space off the width of each lath, so that a sufficient amount of sunshine may pass through between them. In this way the rose is shaded part of the time. We find that we get very much prettier roses in that way. If you want to work a long time for the satisfaction of working, go to raising lilies from seed. I crossed the *Amaryllis* with one of our finest lilies—I do not know how many years ago—and I have been watching them from that time to the present to see them bloom. I got one bulb nearly the size of an apple; I gave it to a friend who took it home, and it bloomed, and was such a beautiful hly that the friend sent a plant back to me; but I have never got the plant to bloom since.

MR. GILCHRIST.—With regard to the blooming of the *Amaryllis*, there is sometimes very little difference between success and failure. A few years ago a lot of gentlemen in Guelph sent to Germany for *Amaryllis*, very expensive ones. They could not get them to bloom, and they sent them to us to see what we could do with them, and we put them in the greenhouse. In every case they had the *Amaryllis* in the centre of the pot with the earth raised away up around them. They would never grow in that way. All we did was to plant them just on the top of the soil, and we succeeded well with them.

MR. DEMPSEY.—Invariably we found it necessary in order to succeed to set the bulb right on top of the soil. Our bulbs, we find, are getting down deeper into the soil all the time, and we have to repot—take the soil away from them.

MR. MORTON.—I would like to ask Mr. Gilchrist whether he ever gives his *Amaryllis* any season of rest. Does he ever allow them to die down?

MR. GILCHRIST.—That depends on the variety a good deal. They are all the better of a season of rest. We give them rest through the winter.

MR. MITCHELL.—The only way that we can succeed with them is to give them a season of rest.

APPLES AS FOOD FOR STOCK.

The next topic for discussion was, "Would it pay to plant apple trees for the purpose of feeding the fruit to stock, and what are the most profitable for this purpose?"

THE PRESIDENT.—I desire to make a remark or two as to the relative values of fruit as food for cattle, compared with other articles of diet. The value of any substance of that sort will depend very much on the proportion of the nutritive elements contained in its composition: and as sugar and starch are the substances which, along with albuminoid matters, chiefly maintain animal life, those are the elements to be chiefly considered. From experiments made by a celebrated German chemist it appears that apples stand tolerably high as a nutritive food. While peaches contain only 1 per cent. of sugar, apples contain from 8 to 10 per cent. If you add the 1 per cent. of the sugar contained in peaches to the albuminoids, 7 to 8 per cent., you have about 9 or 10 per cent. of nutritive matter in that fruit. Taking the apple in the same way you have from 12 to 14 per cent. So that I think it may be said that comparing the apple with the peach for this purpose the apple should have the preference. Sugar beets, which are known to be very nutritive to cattle, contain 11.50 of sugar, as compared with 8 to 10 in apples, so that apples do not fall very far short of sugar beets in the proportion of sugar they contain. Of albuminoids sugar beets contain 4.7; apples, 4.2. Taking potatoes, which are occasionally used as food for stock, we find that they contain from 15 to 16 per cent. of starch, and as the starch is converted into grape sugar, before it is assimilated, we may consider it for this purpose as sugar. Of albuminoids, apples contain from 4 to 5 per cent., and potatoes from 2 to 3 per cent. Comparing apples in their nutritive properties with green red clover we find that green red clover contains of carbohydrates, which are assimilable and act in the same

manner as sugar, 8 per cent., whereas the amount of sugar contained in apples is from 8 to 10 per cent. The nutritive grasses contain from 12 to 15 per cent. Looking at the relative proportions of water contained in these different articles, we find that while apples contain from 80 to 85 per cent., red clover contains from 78 to 83, and grass from 70 to 75. When all these figures are considered, it seems reasonable to conclude that where apples are very abundant, and there is no other means of disposing of them to advantage, it would not be an unprofitable way to make use of them to feed them to stock. They would be about equal with sugar beets with regard to their nutritive value.

Mr. BEADLE—The question we are discussing is the profitableness of raising apples—say sweet apples—for stock. If then our president's premises are correct, that sweet apples and beets are about equal in regard to their nutritive properties, let us see if we can ascertain where the profit lies. How many tons of sugar beets we can grow to the acre, and how many tons of apples? I am not prepared to answer the question myself; but suppose we take it for granted for the sake of argument that they are on a par in that respect. My impression is that I would raise more tons of sugar beets to the acre than of apples. There is more labour in raising the beets; but how many years are we going to be without food for our cattle until we get the apple trees to such a stage that they will be yielding as much food to the acre as sugar beets will. Taking the average life of a man at thirty years, I think the preponderance of opinion will be in favour of growing sugar beets rather than sweet apples for cattle food, and that unless we can find a more remunerative means of disposing of our apples than feeding them to stock we had better grow sugar beets.

Mr. ANDERSON, Blenheim. About two years ago I had some five or six hundred bushels of apples. I fed them to the cows and also to the pigs. In the case of the cows I found that they increased the milk; the pigs got weak in the back. I was of the opinion that the apples were the reason for this, and I dropped the use of them and the pigs got better. I do not think it will ever pay to feed apples to stock. I do not believe they are nearly as good as turnips.

Mr. GRAY.—I should say certainly that of the sugar beet, if properly cultivated in good land, you would get four times the weight off the acre that you possibly could get of apples. If so it would certainly not pay to raise apples for stock. The refuse apples in an orchard might be used in that way to get rid of them. I do not think we could make it a profitable investment to raise fruit for cattle.

Mr. BEADLE—Those who heard Mr. Dempsey's remarks early this morning will know that we have got to a point in advance of feeding our surplus apples to cattle. We have got to the point of chopping them all up, skins, cores, refuse apples, and all, and making jelly of them. I was in a factory on the other side and found that out of these they made grape jelly, guava jelly, peach jelly, plum jelly, and every other kind of jelly you could speak of. I said to the man "How on earth do you make all these kinds of jelly out of apples?" "Oh," he said, "You must be very green. We can flavour this to taste like anything we want; the chemists help us out in that."

Mr. HATCH.—My experience in feeding is that by giving the stock a few apples or a few beets you will make them get more good from the other food—by mixing the apples with the other food.

Mr. CROIL.—Mr. Gray did not make any calculation of the comparative weights. Supposing there were twenty-nine trees to the acre, and that they were thirty feet apart. Five barrels would be an average crop. The weight would then be something like 27,000 pounds of apples. A thousand bushels is not a very extraordinary crop of beets, but that would amount to about 80,000 pounds.

Mr. WOODWARD.—I want to say to you that your secretary got into one of the old fogy jelly establishments on the other side. Those that are right up to the mark do not use any apples at all. They can make any kind of jelly you call for and not use any fruit at all. I have fed a great many apples to stock. The mistake that this gentleman made who has just spoken was that he fed too many apples with too little other food. Apples are very valuable; they are worth as much as potatoes or beets to feed to all kinds of stock; but you cannot expect to feed with any profit food that is so much charged with water as apples are and not give some sort of richer food with it. Apples are worth a

good deal more to feed them than to make cider. They are very bad to feed to cattle whole, as they are liable to choke them, but if you feed them to your cattle in the stable you can fix something above their heads so that they cannot get their heads up more than level, and they will not choke.

Mr. DEMPSEY.—Before I was old enough to have anything to do in the matter my father was in the habit of feeding surplus apples to stock, and we tried two pens of pigs of equal age, giving one a feed of apples at noon, along with hard food in the evening, and the other pen only hard food, and we found in every instance that the pigs that were fed with the apples grew the best. We have found also that our horses do better if we give them a feed of apples occasionally, say on Sunday; and since we have been doing that they have not required any condition powder.

CELERY GROWING.

The next item on the programme was as follows:

"Celery growing, is it profitable to the market gardener? What is the best method of growing and blanching? Which are the best varieties for the amateur; for marketing; and what is the best way to pack and keep for winter use?"

Mr. BUCKE.—I believe it has been generally said that the proper soil to grow celery in is black swamp muck. I have seen it grown repeatedly in such soil, and have never seen a bad crop. It grows fine and strong, and the muck does not appear to rust the celery.

Mr. ROSE.—Anyone who wishes to grow celery should not attempt it in dry soil. I have for many years planted more or less celery. Our soil is high and dry, and I have never yet with perhaps one exception had a good crop. It is not as good as what is grown on mucky soil. It does not blanch quite as well, and it is inclined to be tough. I in fact abandoned the cultivation of it last year; but by mistake of one of the men we had a piece planted with it, and the season being a wet one the celery was the best we have had for years. We have a gentleman who lives in the eastern part of the town here, who has a piece of mucky land—it is muck down a foot and a half to two feet in some places—and he grows on that year after year the most magnificent and succulent celery it was ever anybody's pleasure to eat. He grows it in large quantities, and I presume there is no town that has enjoyed better celery than the Woodstock people have for the last few years from that place. In keeping celery for the winter I find very great difficulty. If I put it outside—which the most of those who grow it largely do—put it in trenches—I find great difficulty in getting at it. About five minutes of severe frosty weather damages celery so that it is not fit to eat.

Mr. REILLY.—I have been through the Boston market gardens, and seen the method of growing celery there. Some men grow as much as ten acres, a hundred thousand bunches. They grow the Boston market celery; that is the kind that sprouts out from the roots different from any grown here. They sow the seed for it in the spring, in drills about seven feet apart, and take a crop of onions from the ground between. In the fall they ridge it up from three feet and a half on each side of the ridge. They store it in the winter by pitting it and covering the pits with a wooden frame, rough and covered with seaweed, and it keeps growing all winter, and keeps blanching after they put it in the pit. They are not particular about the soil. In Arlington they grow the celery in sandy loam, and they succeed in growing the finest I have ever seen in my life.

Mr. WELLINGTON.—I do not think the growing of celery is so difficult as is the keeping of it. After trying a number of plans—placing it in sand, and stacking it up very compactly together without anything about it, but merely allowing the roots to rest on soil—I found the best way and only way I could keep it perfect was to pack it in damp moss, the same as nurserymen use for their trees and shrubs. I have tried that now three years with success, and the celery seems to keep growing and blanching as it grows, and I cannot buy celery in Toronto equal to what I have on my table every day. We pack it in the damp moss in cases and then put in the cellar. I have never to damp the moss after I put the celery away, and I have to-day as fine celery as I can find in the country. You can get the moss from any ordinary marsh.

Dr. CROSS, St. Catharines.—If the air around celery is too dry the celery will wilt and die; if too damp it begins to rot at the heart and it rots down. The difficulty about keeping is generally with regard to ventilation. Having myself met with that difficulty year after year I last year constructed a sort of roothouse for the purpose of keeping it in. It was sufficiently large to hold six or eight thousand, had a door at each end, and was built with double walls with sawdust between to exclude the frost. I open the doors or keep them closed, according as the air requires to be drier or moister. If we can have a cool, damp season like the last, celery will grow almost anywhere. If we have dry weather and a dry atmosphere it is very difficult to have it grow at all; if it does grow it will grow rusty and not be worth much.

Mr. GILCHRIST.—Was that celery that Mr. Wellington put in the cellar blanched?

Mr. WELLINGTON.—It was only about half blanched when it was dug and put in the moss.

Mr. GILCHRIST.—I think a great many make a mistake in blanching their celery before putting it away.

Mr. ROSE.—What temperature do you keep your cellar at?

Mr. WELLINGTON.—I have an ordinary cellar such as we have in cities: a good sized cellar. I keep it as cool as possible without letting frost in.

Mr. GRAY.—Mr. Rose spoke of a person who is a very successful grower of celery in the town of Woodstock; Mr. Trickey is his name. I asked him the other day how he kept it. He says he does not make much out of it through the summer, but in the winter. He takes up his celery and a great deal of it is quite unblanched. He raises it with as much dirt on the roots as will remain on it, takes it into the root house, and packs it close together standing perpendicular. He says that celery keeps without any difficulty whatever, and continues to blanch and grow. I do not think he puts any soil or moss around it; only packs it close together, and uses it as he wants it.

Mr. WELLINGTON.—I just pack the moss at the bottom, for an inch or two up.

Mr. GOLDBIE.—That plan would hardly suit the large growers. The way they commonly do in New Jersey, and I think about New York too, is to dig a trench and stick it in as closely as they can without putting any earth in at all, and then cover it over with the hay that is taken off the salt meadows. They can then pick it out at any time during the winter. I think the way Mr. Wellington mentions would be the best for small families.

Mr. WOODWARD.—I have a different way of keeping celery from any I have heard mentioned. I used to pack it in sand in boxes. Then I got to packing it with moss. For the last few years I have taken shoe-boxes and made the bottom of them water-tight for about two or three inches up. I have then bored holes in the boxes so as to be sure never to have water come above that. I lift the celery with a moderate amount of soil sticking to it, set it in the boxes on end, and put a little water in so as to puddle the earth. I then set the boxes on top of each other, and take the celery out for use as I require it. I had some of it for my breakfast yesterday morning, and nobody could have asked for better. The secret for growing celery is to have the ground rich and keep it damp.

Mr. ANDERSON.—I think the great point in keeping celery in the winter is to keep it dark. My plan is to place it in soil about four inches deep in the cellar, and then cover it over with straw; it has kept with me splendidly in that way.

Mr. BEADLE.—I like best the variety of celery that is sometimes called the Prince of Wales—sometimes called the Sandringham dwarf. I think that is the sweetest and nuttiest celery I have tried.

The meeting then adjourned till seven o'clock.

EVENING SESSION.

The proceedings of the evening session were opened with the answering of questions from the question box as follows:—

QUESTION.—Does any gentleman know if the native wild rhododendron grows in this county or adjoining ones? It has been reported they grow wild in some part of the county south of this place.

The PRESIDENT. I do not know of its growing in any part of this country. I have seen the plant growing very abundantly in the United States, in Pennsylvania, even in the northern part of that State; but in this country I have not met with it. It is said by Gray to be occasionally found in Canada.

Mr. BEADLE. I think it was Mr. Leslie who told me that he had seen it growing on Lake Simcoe. I am not confident as to the man, but I am positive as to the place.

QUESTION. In order to produce good merchantable fruit, must we not resort to proper thinning of the crop?

Mr. BEADLE. — Yes.

QUESTION. A member who has but a small garden would like to know the names of the best six varieties of pears for amateur growth.

Mr. DEMPSEY. — If it was a locality similar to our own, for one early pear I would plant Manning's Elizabeth. Rosticzer is a very fine one; then the Bartlett, the Doyenne Boussock, the Beurre Hardy, and the Josephine de Malines.

The SECRETARY. — I think I should have tried to put Tyson in there somewhere. Manning's Elizabeth is a beautiful pear. It is small, but delicious.

QUESTION. Is there any danger in purchasing suckers of plum and cherry trees where the original stock is known to be infected with black knot, and planting them on grounds where the disease has never been known?

Mr. GOTT. — There is great danger. That is the most effectual way to propagate the disease.

HONOURS TO VISITORS.

The PRESIDENT. We have with us this evening three gentlemen who would do honour to any horticultural convention. I allude to Mr. Woodward of Lockport who represents the western New York Fruit Growers' Association; Mr. Charles Garfield, the secretary of the Michigan State Association; and Mr. Scott, a prominent horticulturist of Ann Arbor. On behalf of this Association I beg to tender these gentlemen a cordial welcome to our meeting, and ask them to take seats on the platform.

SCHOOL-YARD HORTICULTURE.

The Convention then proceeded to the discussion of the next question on the list of topics, "Is it desirable to interest the children in the cultivation of plants and trees by practical horticulture in the school-yard?"

The PRESIDENT. I would ask Mr. Garfield if he would be kind enough to lead off in this discussion.

Mr. GARFIELD. I could just answer the question by saying "yes." A few years ago it seemed to us in Michigan that it would be a very excellent part of our work to interest the children in primary horticulture; but it appeared to us that our society was not really the body to take hold of this thing, because we had a board of education, and a university, and a normal school. We thought we would nudge these people and get them to do the work; but we nudged and nudged without being able to get them to do anything. Then we took hold of it ourselves; and this is the method we took. A good deal of it is familiar to you, perhaps. We first interested Professor Tracy, who is the man above all men in the State of Michigan to have anything to do with floral matters. We took him into our circle and asked him what was to be done; and he said, "Find some enterprising seed firm, if you can, to give the children seeds — to give them to them outright — on condition that the children shall plant them and report results." I took up the idea, and wrote to a number of seed firms, and the seeds were given; but they were given to the school children with the understanding that they should sow them, and that we should get something back from them that would help other children. So we issued a circular which explained exactly what we sent the children and what was to be done with each variety of seeds. We sent about thirty varieties of seeds; and the first year they went into about eighty school districts in the State, and the teacher was made responsible. We had the school director's name in each instance, so that we could enter into direct communication with any district in which seeds were planted. Out of the eighty districts

to which seeds went out we received reports from about sixty the first year; and we were surprised to find the results that had been brought about by those children, indirect results that we had hardly been trying to reach. Each teacher spoke of the greater ease with which he or she controlled the pupils they had under them, and said that the cultivation of the flowers helped the indoor work. Almost everybody said, "You have begun at the wrong end, because they won't take care of them." They said, "Why don't you have an arbor day and get them to plant trees?" But we found that in every case those children were as careful of those seeds as they were of their school books. That work has grown from 1879 till the present time, so that now not only dotted here and there through our State we find our school-yards in many places beautified with flower-beds, but a regular arbor day has been established on which we have trees and shrubs planted. For a couple of years we have not pushed the matter with regard to school grounds much, but we are continually getting reports from teachers concerning it which are very favourable. I do not think there is any work which we can do as a horticultural society that is better than this one of interesting the children in the cultivation of flowers and shrubs and trees, because of the good it will do not only in cultivating their tastes but in giving them information as primary horticulturists which will help them afterwards in work such as you and I are doing.

Mr. BEADLE.—How much land have you usually in connection with your rural school-houses?

Mr. GARFIELD. —I do not think it averages over half an acre. A great many of the teachers reported that there was no place to put the seeds except close to the school-houses.

Mr. WRIGHT.—I was a school teacher for seven years, and enjoyed it well, and I can tell you how I managed this thing. I came to the conclusion that our school-house and our grounds looked rather uninviting, so I said one night, "I want all the children to stay in after school." They wondered what in the world was wrong; but after school was over I said, "Now we have got a new school house; the trustees have put up a nice building for us here; I will tell you what I propose. There are four windows on this side of the house; I want those all filled with flowers. Now, how many can bring me a plant to-morrow?" The next morning to my utter astonishment every window on that side of the house was filled with flowers and plants. The sills were not quite large enough, so I got boards and screwed them on to the sills, and when the flowers and plants were put on them the windows looked very nice indeed. I told the children that those were not my plants—that they were theirs, and that they must attend to them. So the next time it happened to rain I told them "Now, you had better carry these out and they will get nicely washed." They did so, and got very much interested. Formerly there used to be the greatest uproar in the school-room at noon time, but now they would not run about it for fear they might knock some of these plants out of the windows and destroy them. I remember one of the roughest and most uncouth boys I had in the school knocked one of those pots down and broke it, and he immediately sat down and began to cry. I went to him and said "Don't; it is your plant; it is not mine; you can bring another one, and it will be all right." I do not think anything I ever did in that school so toned down the rough boys in it as getting those plants there. This was down at Lachine; and they had very many *jours d'obligation*—holy days—down there; and when it was cold on those days we required fire to keep the flowers from freezing. The trustees said they would give us coal for it if the boys would take turns in keeping the fire up. This was agreed to, and each boy when it would be his turn would be there early in the morning and get the place warm. The holiday season came on, and I said, "What are we going to do with these plants?" One little girl said, "We will get paper bags and put over them and take them home." So each of them did that, and the plants were just as fresh and nice when I came back at the end of my holiday season as when I went away. Then when the springtime came we took a small portion of the yard, and I got the boys to clear it of stones, to bring manure up there, and to fix it up nicely. They then went and got seeds themselves—their parents gave them to them—and we took some geraniums that were in full bloom and planted them out there; and then the children went to the St. Lawrence, which was not far, and brought water in pails and kept them

watered. I am now endeavouring, doing with Mr. Smedfield, one of our trustees in Renfrew, to have plants set out in the school ground there. We have them already introduced into the school room, and now we are going to try them in the open ground; and a prize has been offered by our agricultural association for the best collection of flowers that have been raised in school-grounds.

Mr. BEADLE.—I never taught school in my life; but the more I think of it, the more I think there is great need in this Province of something being done in this direction. I have believed what Mr. Wright has said without having seen it or having it come as directly to me as Mr. Wright has given it this evening—that the result would be beneficial upon the school discipline, beneficial upon the children—particularly the boys—in taming down their natural roughness. I think the benefit would go still further. I think it would be beneficial in creating a taste in both boys and girls for plants and flowers. I think that that taste would last them longer than their school days, that it would grow with their growth and strengthen with their strength, and that when they have homes of their own they will want to adorn those homes and make them pleasant and attractive, because they have learned the lesson of beauty in their school days and in their school grounds; and I believe that is as much a part of the education that we need to give our children as teaching them their A's or teaching them their three R's. Now, what we can do in this matter is what is agitating my mind. I have no occasion to think as to whether it is desirable to do it. I am fully persuaded that it is desirable that we bring about as soon as possible a great improvement all over our country. I can find places not a great way from St. Catharines where there are still to-day farmers well off, comfortable as can be, but if you want to go to the front door of their house you will have to go through the barnyard to get there. I know several such places. I think we can have a better taste than that; and I believe that if we can only establish a little more taste among our rural population, so that our farmers will plant some trees about their houses and perhaps some flowers also, and so that we can get them to plant some roadside trees too, we shall get the whole country so transformed in its appearance—nice lawns and flower beds surrounding our farmers' residences, pleasant shade trees, our roads without fences as in some parts of Europe—that the value of our farms will be increased ten times more than they can be in any other way. I do not think, however, that we can accomplish that with the older heads; we have to wait till another generation grows up. Therefore I am strongly of opinion we must go into our schools and begin there, and see whether in them we cannot bring out a taste for flowers and agriculture which will develop and grow. I believe if we could make our school grounds beautiful we would gain a great point. I brought away from the Horticultural society at Rochester the other day a very interesting drawing by J. J. Thomas, which he produced there, showing how the school grounds could be laid out with a few trees and with everything pleasant about them. It was very neatly got up. I intended bringing it with me, but I forgot it. However, you can picture it to yourself, a school ground with a few trees planted in it and here and there a flower or two, and can easily imagine how much more interesting that would make the school to every scholar—how much more pleasant it would be to them—how much better they would go to school to such places, than to the bleak, barren wastes that their school grounds are to-day. I feel ashamed of our school boards throughout the country that they have not wakened up to this before now.

Mr. WRIGHT.—You have got to begin with the teachers. If you have a real, true teacher in your school the children are fully impressed in their own minds that he or she is the greatest man or woman that walks upon the face of the earth. Thinking them so, they believe them implicitly; and if they tell the children these grounds look bad and that they can make them look nicer, they will begin and help the teacher. Then you know that every father and mother believe that what their children do is exactly right; and if the children go home and tell their parents, "Mr. So-and-So wants us to bring some seeds to help to make the grounds look well," the parents will give them to them. And if the trustees see that the teacher is really in earnest, and that the children are in earnest, they will do what they want as far as it is reasonable.

Mr. WOODWARD.—I have had a little experience in the ornamentation of school grounds, and some of the first lessons I remember were lessons in horticulture and pomology

The teacher used occasionally to send us out and have us select a good, strong specimen of the birch: sometimes it was ironwood; and if we could not get either of those handy, we would get an apple branch. I have loved apples ever since, and I have never since seen a good specimen of birch or ironwood that my blood has not tingled. We have one of the finest schoolyards to-day in western New York, and it was made so by the work and energy of two youngsters, of whom I was one. I was about fourteen or fifteen years old, and the other was younger. I believe we ought to teach botany in every common school in Canada and the United States. That should be one of the fundamental elements of education. And we ought to teach horticulture and pomology also. It is ridiculous that our children go out into the world with but knowing enough to distinguish one plant from another by its leaves and flowers. It is easier for little fellows to learn that than a great many other things which they do learn, but which are of no use to them when they grow up. By teaching them these subjects you can easily excite in them a desire to grow these things for themselves. By such meetings as this, by writing the matter up in the agricultural press, and, if necessary, going to the Legislature and insisting on these things being taught, we can make a great change in one generation.

Mr. DENTON.—I admired and thoroughly approved of the way in which Mr. Wright brought the matter before us. It is never a question of means so much as it is a question of interesting the teacher and the child in the work. Now, in regard to the London school board. Two years ago it was hinted to some of the teachers how much better the grounds would look with flower beds in them. Why, that was splendid! The very idea of having flower beds there! But they must come to the board with a petition for flowers and plants and for a man to arrange the flower beds for them. Now, that would not interest the children. I hope this matter will be brought before the boards. It is quite true that many of our school grounds are gloomy and disagreeable places, which the children are glad to get away from; but if the ornamentation of the grounds can be brought about in this way it will give them a charm and an interest beyond anything I know of.

Mr. CRAIG.—Having been connected a few years ago with the school system as local superintendent of East Zorra, and being cognizant to some extent of the nature of the grounds around the school-houses, I can endorse what some gentlemen have said with regard to their sterility, barrenness, and lack of loveliness. At the same time the limited amount of ground belonging to each school is so curtailed by the amount apportioned to the school-house and its surroundings that I do not very well see how any scheme to turn the play grounds into ornamental gardens could be carried out. The high school ground in Simcoe is very highly ornamented. I have no doubt the inhabitants of Woodstock will see to it by-and-by that their high school grounds are also beautified and ornamented in a similar form. When children sit in the school house from nine o'clock till half past twelve they want a romp, and now they have either to go into the play ground or the public road. It seems to me that it would not do to turn our present school grounds into ornamental gardens to encourage the taste for horticulture and arboriculture. For many years back, there has been a feeling abroad among both those interested in the advance of agriculture and those interested in the advance of horticulture that children should be educated in this matter, and made to see that it conferred dignity and credit on them to pursue these avocations. That is all right enough; but as to whether the grounds around our country school-houses are the right spheres for the exercise of the educational influences to be exerted in that behalf, is a point in regard to which I have doubts. As Mr. Beadle remarked, a good many of us here are old men, and it is with the rising generation that the advancement of the interests of fruit-growing, flower-growing, arboriculture and all that is to lie; yet any influences we can bring to bear on our scholastic institutions in the cultivation of taste through the study of these, ought to be encouraged.

Mr. SAWTELL.—I have known this county now nearly forty years. When we first came to it we had nothing but log school-houses. They gave way to frame, and in time they have given way to brick school-houses, and I think the average quantity of land would be something more than half an acre—it would be at least that. We very seldom find less than half an acre, and very often it is an acre. Around many of the school-houses there have been shade trees planted, and in some cases also flower gardens. These are not so placed as to take up the playground, but are between the school-house and the

road. I believe that the initiative should be taken in this matter by the Inspector, and if he could not get the study of botany introduced into the schools he might at least get some of the teachers to take it up.

The PRESIDENT.—I do not think any of the gentlemen who have spoken entertain the idea of turning the play yard into an ornamental ground, but their view is that the grounds might be shaded by trees so that they might thereby be made pleasant as play grounds, and that at the same time they might be ornamented by having flower beds in some out of the way place where they would not interfere with the play ground. I fully sympathise with the opinion as to the propriety of teaching this branch of husbandry in the schools, and I think nothing could be added to the curriculum we now have that would produce better results than the teaching of practical botany, beginning instruction in it with the aid of such plants as could be grown in the school grounds. This way of teaching it would at once interest both the children and the teacher. It is no credit to our Province that so large a proportion not only of the children but of the grown people know so little of the weeds they tread upon. There is no branch the study of which would have so good an influence on the minds of the children, or train them better in methods of practical observation, than the science of botany and its kindred science, entomology. We should know something about the insects which affect our plants, our crops, our fruits; and the two sciences should go hand in hand.

Mr. BUCKE.—In Ottawa I suppose we have one of the prettiest gardens that there is in the country in front of our normal and model schools. They have beautiful trees and flowers planted, and along with them there are fountains and statuary, so that there I think the matter has not been lost sight of by the educational department. I should like however to see the children more interested in the work.

Mr. GARFIELD.—I was school inspector and had thirteen schools to visit two years ago. I went round to them on foot; it was in the month of May when our wild flowers were the best; I made it a point to pick some and take them into the school in every case to see if the teacher knew anything about them, and in the thirteen schools there was not one of the teachers who knew one of them. So I thought it would be pretty uphill work to get the children interested when the teachers knew so little about the subject. I thought the place to begin was at the normal school, where our teachers were made.

Mr. WOODWARD.—This thing is very catching. If you will get the trustees of one of your school districts to go and ornament the yard—get them growing flowers so that it will be remarked—it will spread to the surrounding districts. You might get your county agricultural associations to offer a premium to the school district that kept its yard in the best shape each year. I would take the playground for a flower garden.

The PRESIDENT.—We have in our series of school books a little book called "Elements of Botany," written by Professor Macoun and Mr. Spotton. It begins with taking some of our wild flowers, and it is very interesting. It would form an excellent basis for the work of which we have been speaking.

Mr. WRIGHT.—It is already authorized and used in all the High Schools in the Province. An idea that has just struck me is that we might require that in our model schools every teacher should pass an examination in botany, or give an object lesson in botany before the teachers.

Mr. WOODWARD.—And horticulture too.

Mr. WRIGHT.—Yes, perhaps horticulture too.

Mr. GRAY.—We must take our teachers as they are. If we could have them as we wished them to be they would all be men of taste; but they are too old to be educated now. We might, however, bring our children up to have taste and to exercise it in beautifying the country. The cultivation of flowers will bring to our homes that comfort, that pleasure, and that elevation of mind which no money can buy.

HARDY PERENNIALS.

The Convention then proceeded to a consideration of "The best hardy perennial flowering plants for general cultivation."

Mr. GOLDIE.—There are a great many of our native wild plants that I think are more worthy of cultivation than many of the imported ones that are commonly grown, though possibly they would not be so suitable for general cultivation. Take the *Cypripediums*. What are more beautiful than the three principal ones we find in our Province. The *Trilliums* also are very interesting. Take the *Trillium grandiflorum* and the *erectum*; they are very common in the woods, and they are very good flowers although they do not last long. Then the *Lobelias* are very well worthy of cultivation.

Mr. BEADLE.—Have you tried the *Lobelia cardinalis* in your own grounds?

Mr. GOLDIE.—Yes; you want to follow nature as far as possible in growing these plants. The *Trilliums* are as easily grown as any daffodil.

Mr. BEADLE.—They respond to cultivation very readily, and increase their size very much.

Mr. GOLDIE.—Another very fine tribe of plants is the milkweeds, the *Asclepias*. Take the *Asclepias tuberosa*; I do not know a more beautiful plant. It thrives in a light sandy soil. Another class is the *Liliums*. We have two or three very fine native lilies. They are very fine plants for any culture. The *canadensis* and the *philadelphicum* are just as fine as many of the imported lilies that are so much run after. I am confident if these were brought into more general cultivation that those growing them would feel very much more interested in them than in their exotic relatives. There are also the *Gentians*, another very interesting class of plants that are unfortunately getting very scarce here. I scarcely know where you would go now to look for them; but formerly they were very common, before the country was so much cleared up, along the little brooks and streams. As to the foreign herbaceous plants fit for the garden, I do not know that I can speak very fully. I would like to hear a few words from some of the other gentlemen present.

The PRESIDENT.—I quite concur in all that Mr. Goldie has said in regard to the varieties of plants which he has referred to, and would add in regard to the fringed gentian that it is perhaps one of the most beautiful of all the gentians. The last time I saw it growing was on the cliffs at Niagara, and I believe it is quite common there yet. It was so two or three years ago. At the opening of spring we have our *Sanguinaria canadensis*, the blood root. It belongs to the poppy family, and unfortunately has the same habit that poppies have of soon shedding its petals; but while they last the flowers are very beautiful indeed. Another plant very similar to that is what is known as the twin-leaf, the *Jeffersonia diphylla*. That, cultivated alongside of the blood-root, makes another very interesting variety for spring flowering. I got my boys interested at home while they were young in planting wild flowers, gave each of them a piece of ground in the back garden which they undertook to look after, and they succeeded in bringing together quite a large number of species of wild flowers. The *Trilliums* and the *Hepaticas* did very well, the *Hepaticas* especially were a perfect mass of flowers as soon as the spring opened. The flowers rise and expand before the foliage, and they are really charming. There are some double *Hepaticas* which in cultivation are beautiful little hardy perennial plants. The *columbines* are great favourites of mine. I do not know a more beautiful flower, either native or imported, than our native columbine. It is now introduced into many of the gardens of Europe, and is thought to be one of the most graceful flowers they have. The blue columbine, from the Rocky mountains, and the *Achrysantha* have been lately added to our varieties here. Then we have the dog-toothed violet, the leaves of which are beautifully spotted. The flowers are not very common, for the reason that the roots are bulbous, and it takes the plant some years to accumulate strength enough to throw up a flower; but you will occasionally find a flower, and when you do it is very beautiful. In British Columbia there are one or two species of this genus which are hardy, and which would be a very great acquisition. The *Lilium canadensis* is in every respect a desirable plant. I think too much cannot be said in favour of the ladies' slippers—*Cypripediums*. I have found it rather difficult, however, to get the purple ones to flower. Their natural habitat is in the swamps. You find them among moss and other plants that delight in damp situations, and there they flourish in a most charming manner. It is not easy to provide plants of that kind in an ordinary garden with such surroundings as are necessary to their growth. There are a number of the wild asters which are worthy

of cultivation ; but these come in late in the season and do not attract our attention so much as the spring flowers.

QUESTION BOX.

On the following morning the proceedings commenced with the answering of questions from the box.

QUESTION.—What is the best way of planting evergreens for wind breaks, in single or double rows, and how far apart in the rows ; how far between the rows ?

MR. MORRIS.—My plan would be to plant two or three rows. I would prefer for one row—say the central row—European larch ; and I do not know anything better than Norway spruce for a row on each side. I think I would plant the rows about four feet apart, and the trees about three or four feet apart in the row, and cultivate for four or five years.

THE PRESIDENT.—Wouldn't your larch soon get so ungainly and bulky as to crowd the others out ? It is a free grower.

MR. MORRIS.—I think not.

MR. ANDERSON.—I planted an orchard about twenty-five years ago and trees for a wind-break around it, and at the present moment they are forty feet high. I planted them eight feet apart, and they are a complete protection all around the orchard they are too much so, in my opinion. I planted them just singly went into the bush and dug them up with just some sod on. I expected a good number of them to die, but they did not.

MR. GOTT.—Do they crowd one another ?

MR. ANDERSON.—Yes ; the branches interlace.

MR. WOODWARD.—There is quite a difference with us between a screen and a wind-break. If I planted I would set the trees six feet apart and six feet apart in the row. I think Norway spruce if crowded becomes unsightly after a while. That we would call a screen. For a windbreak we would plant two rows, the trees fifteen feet apart, breaking joints. For the last few years our orchard trees have done best where they were partly exposed to the wind. What we think is required is something to break the winds.

MR. GOLDIE.—If a wind-break is wanted and there is room, I would prefer planting Norway Spruce twenty feet apart. I would plant three rows, setting them twenty feet apart. If they are crowded, the branches will die off more or less.

QUESTION.—Will the Russian Mulberry stand the cold of our Canadian winters, and if so, will it answer for the purpose of making hedges ?

MR. WOODWARD.—I do not see anything about it that would make it suitable for a hedge.

MR. BEADLE.—I think I could make a hedge of it. If you do not prune it, it will make a hedge close to the ground. So far as the style of growth of the tree is concerned it looks as if it might make a hedge. At our place the thermometer rarely goes down to 18 below zero. Some of my neighbours said this winter that it went down to 18 below zero, but mine only went down to 12 below.

MR. WRIGHT.—I have two plants of the Russian Mulberry. I have only wintered them once previous to this winter. Last winter the tops killed down to the snow line. I am inclined to think it will not be hardy enough.

MR. BUCKE.—I had some of the Russian Mulberries last winter at Ottawa, and they stood the winter well enough ; but they are not very high.

THE PRESIDENT.—In London I have tried them, and they appear to do pretty well. They branch close to the ground, and it seems to me as if they might be useful for hedge plants ; but it is perhaps too soon to express an opinion.

QUESTION.—I see in report about Russian Mulberry, Catalpa, etc., can these be got here and at a reasonable price ?

MR. BEADLE.—He means the Catalpa Speciosa, I think. The Catalpa Bignonioides cannot be grown in Canada ; in the County of Lincoln we can grow it with a little care when it is young. I have trees of it in my grounds which flower every year ; but in a territory where the mercury goes lower than it does with us I do not think the Catalpa Bignonioides would do.

THE PRESIDENT.—We have the thermometer down occasionally to 25 below zero, and the Mulberry and Catalpa Speciosa seem to stand that temperature, but the Bignonoides does not—it sometimes winter-kills.

QUESTION.—What is the best hedge plant for farm use, and is it advisable to plant hedges on the farm in preference to other kinds of fences?

MR. GOTT.—We have tried the Honey Locust very successfully. It makes an effectual hedge. For farm use we would confine ourselves to it alone as a defensive hedge.

THE PRESIDENT.—What would it cost to keep a Honey Locust hedge in order? wouldn't it cost more than to keep a fence in order?

MR. GOTT.—I think not; but how long it could be kept in order is another question. Continuous clipping would be necessary, and that would injure the life of the plants. Another thing is that the hedges take so much of the vitality of the soil on both sides of them that our farmers object to them. A great objection is that so much snow falls in our climate that hedges afford a harbour for mice, and they girdle the plants.

MR. BEADLE.—I had some experience with Honey Locust, and a hedge of it costs more than it would to build an iron fence. What do you want of fences anyway? Let us get rid of our fences; they are a costly tax upon the agricultural community of this country—millions of dollars—and they do not know it.

MR. GARFIELD.—We are working toward the end that Secretary Beadle seeks. We had a stock law that read something to the effect that each township should decide for itself whether they should allow stock to run at large or not; and if any township by a majority vote said no stock should run in the road that was the law. But we found that we could hardly get any township except near the city to vote that, and we then twisted it round the other way, and made it the law that no cattle should run at large unless the township should vote that they should be allowed. At the outset, this results in our country having a shabby appearance, because they are simply letting the fences go down and doing nothing with them; but I think in time they will pick up their old fences.

QUESTION.—Are honey bees of any value to fruit blossoms; if so, in what way?

MR. DEMPSEY.—I am afraid that is a difficult question to answer. I have a block of dwarf apple trees that we pet considerably from the fact that it is an experimental block. Under those trees we have had this year from one to three colonies of bees, and we have had nearly as many apples from one hundred of those little dwarf trees as we had from five thousand standard trees. Whether the bees had anything to do with it or not I cannot say. The dwarf trees were all bending with the fruit, while the standard trees in the orchard, which was just in bearing, were almost without fruit.

QUESTION.—A lady desires to know the names of ten varieties of Monthly Roses which this Association would recommend as among the best.

MR. WELLINGTON.—Agrippina, Hermosa, Catharine Hermet, Isabella Sprunt, Madame Bravay, Marie Guillot, Odorata, Perle des Jardines, Madame Lambert, and Celine Forester.

QUESTION.—What is the effect of east winds in the spring of the year on our fruits and fruit blossoms? Are they as a rule prejudicial?

MR. HICKLING.—During the past season I have observed that on the east side of fruit trees there was no fruit. I have noticed it in many places in our locality where the fruit seemed to be entirely confined to the west side of the tree. This was attributed to the east winds, or rather to the sun striking on the orchard before the frost was entirely out. I have an opinion that our orchards require to be protected from the east—north-east especially—if we wish to get fruit. That is, in our northern localities.

MR. GOTT.—Those east winds are dreadful things. I know the year before last it took off a large quantity of peaches. Had we had protection on the east side of our orchard at that time—a small orchard—we think it would have been worth \$200 to us.

MR. HATCH.—Some twenty-five or thirty years ago I planted around three sides of the orchard peach trees, and on the east side and north side they all died from freezing, while on the west side they mostly lived.

MR. GRAY.—I have observed for several years when the prevailing east wind came at a certain time, just before or just at the time that the fruit was forming from the blossom, trees exposed to the wind were very much blighted. I think it has a blighting effect on

everything it touches at certain times. Perhaps it is only for a few days it will have that effect; but I have always found that wherever there has been an east wind for a while at that particular time, nearly the whole of the fruit was destroyed. Trees close by, but sheltered from the wind, bore a good crop; therefore, it is clear to my mind that that wind has a very blighting effect on fruit. I would rather protect my fruit from the east wind than from the west wind.

MR. BEADLE—I do not know very much of the effect of the east wind on fruit, but I remember reading a few years ago about the east wind having a very blighting effect on the wheat crop of Egypt in the days of Pharaoh.

CULTURE OF SMALL FRUITS FOR MARKET.

Mr. E. Morris here read a paper on the above subject as follows:

The business of growing small fruits for market, a branch of horticulture long neglected in Ontario, is just assuming the importance its merits deserve, and with the establishing of canning and drying factories throughout the country, we may still look forward to its expansion in the future in a much greater proportion than in the past.

About ten years ago the business was mainly confined to a few hundred acres of strawberries about Oakville and a few small vineyards in the vicinity of Hamilton, and to show the views of the people generally at that time, I will relate the experience of one who commenced in a small way in the Township of Pelham (one of the foremost in horticulture in Ontario). The first year his planting was about an acre each of strawberries, raspberries, blackberries and grapes. The questions mainly asked by the neighbours who turned out in strong force to see this new departure, were, "Where do you expect to find market for so many berries, and how are you going to get them all picked?" all leaving with a good deal of sympathy for the owner for loss of time and money that would follow. Their adverse criticisms did not discourage, but created a determination to succeed. The second year, before a berry was picked, two acres more of each, raspberries and strawberries, were set to the still greater astonishment of the neighbours. The third year the work of picking and marketing commenced in earnest, realizing about \$1,500 gross, \$1,200 net (since then Pelham has become noted for its large plantations of small fruits and vineyards); of course the high prices obtained at that time insured much larger profits than can be expected at the present, however, with soil adapted and proper management the business of small fruit growing is still, and will continue to be, one of the most profitable. Ten acres, well managed, will give as much net profit as one hundred from ordinary farming.

To insure success the party should have a natural ability for the work; he must be possessed of perseverance, also tact for the management of help, and for these men who possess these qualifications, and particularly those having a large family of boys and girls, between the ages of ten and twenty, that he wishes to give light and healthy out-of-door employment to, will certainly find the growing of small fruit the most interesting and remunerative in which he can engage.

The soil must be in all cases dry or made so by draining, and in a fair state of fertility.

In speaking of varieties and manner of growing, and on soil worth, and only used for ordinary farm crops, we shall confine ourselves to those sorts best adapted for market purposes, and therefore will only speak of a few varieties, leaving out many new sorts that are too expensive to buy and plant in a large way, some of which in a short time will be of the leading sorts.

Of Strawberries we choose the following: Wilson's Albany, Jas. Vick, Crescent Seedling and Manchester, the two last are pistillate and require to be planted alternately (four rows of each) with one of the two sorts first mentioned.

The following varieties frequently do well where soil and location are favourable, and might be tried in smaller quantities: Chas. Downing, Jersey Queen, Cumberland Triumph, and Capt. Jack.

The ground should be thoroughly prepared by deep plowing, followed by harrowing and cultivating until it is fine and mellow, after which it should be well rolled: this preparation will pack the soil so that a good plowman can cut a straight furrow, leaving it clean and smooth on the landside for planting against; these furrows should be three and a half feet apart and plants set fifteen to eighteen inches.

The planter holding the plant in position with the left hand and drawing a little soil against it with the right, the furrow is then filled about two-thirds with a hoe, and packed by tramping with the feet, niling up afterwards even with the top of the crown with loose soil.

This planting should be done as early in the spring as the soil is dry enough to work properly. For small plantings a hoe and spade may be used instead of the plow. In case of drought or late planting the roots of the plants should be thoroughly packed before setting.

The first season all blossoms should be cut off and no fruit allowed to set. The care consists principally in keeping the soil loose and moist, by frequent cultivations between the rows, which at the same time throws the runners in, thus forming a matted row, the rows should be kept clean by weeding, with the aid of a hoe where it can be used.

As soon in the fall as the ground is frozen sufficiently to bear a wagon the plantation should receive a light covering of straw scattered over the plants very evenly and thin enough to not entirely hide them; the following spring as soon as growth commences the straw should be raked between the rows and allowed to remain as a mulch until after bearing.

Raspberries, Red.—A deep loam or sandy soil should be selected. The Cuthbert, where hardy enough is acknowledged by all to stand at the head of the list for medium to late, where the Cuthbert winter-kills, the Brandywine and Turner stand or substituted. For early, the Hansell is promising.

Instead of planting in the common hedge row system, would recommend setting in hills three by four feet, ground previously marked that distance as for corn planting; during cultivation work both ways for the first two seasons, using a cultivator with knife to cut off all suckers, which is absolutely necessary to secure a good crop of fruit.

The second season after planting, about one-third of a crop may be expected. The third year, after the ground is thoroughly cultivated both ways, the plants will be large enough, so that the tops of each hill should be divided. Half the canes should be bent over in the row overlapping those of half the next, which should be bent to meet; the tops are then tied in the centre. The hills should be tied in the direction of the wind rows, thus leaving nearly four feet clear for cultivation during the season. The advantages of this mode are: the plants are kept from being broken down by wind storms, the fruit is kept up from the soil and more convenient for picking, also leaving the centre of the hill open so that the canes do not become so thick, thus securing an open and better growth for bearing the following season, reducing the expense of cultivation, as hardly any hoeing will be required.

The old bearing canes should be cut short soon after bearing, which will allow the ground being cultivated both ways again.

Raspberries Black.—Same soil as the red varieties, although if there is a difference in your planting ground, would give the blacks the heavier soil, having in view a plot of ground of the same size to plant the following year. It is not necessary to multiply varieties when the two best will cover the whole season of ripening. Souhegan for early to medium, and Gregg medium to late; our preference decidedly in favour of the former, as being the most productive and hardy of all the black-caps, having originated and succeeding well in the cold locality of Mt. Vernon, New Hampshire.

Mark the ground as for the reds, with the exception of having the hills three feet by six, instead of three by four; plant two or three tips in each hill about six inches apart in the form of a triangle.

Cultivate both ways during the fore part of the season; pinch off all the tips of the young plants when they reach the height of from eight to twelve inches, causing them to branch, forming a low stocky head.

The second year plot No. 2 should be set out, and should receive the same treatment.

at the same age that we describe for No. 1. This year, plot No. 1, can only be cultivated one way, and care must be taken to pinch off the tops of the young growth as soon as they show themselves over the growth of the previous year, as this is very important to success. The plantation should be pruned several times, and the pinching followed up. The fruit will turn out about one-third of a crop. The third season the branches should be cut in to an even length early in the spring, leaving them about two to two and one-half feet from the main stem. The latter part of May or 1st of June, cultivate, and thoroughly hoe, and if convenient it will pay well to give a mulching of straw in the row. Leave the row green all this season will be profitable, and the fruit will be better than getting the fruit a little shade.

Early in the spring of the fourth year the *entire* top should be cut off even with the ground, and two or three forks full of manure with about a pint of unleached wood ashes scattered around each hill, the ashes may be increased to one quart if no manure is used.

This season give the plot thorough cultivation, and do not neglect the pinching back with a view of getting strong growth, and the bushes kept in shape for the following year. Cut down each plot every other year, in this manner you will keep your plantation vigorous and renewed, obtaining more fruit in one season than in two, by allowing them to bear every year, while expense of cultivation and cutting out old canes, is reduced to one-half of that by practising the ordinary way, when black-caps cease to be profitable after the fourth year.

Near canning factories I would add Schaffers Colossal to the list of profitable sorts for growing; this is not strictly a black-cap, being a very dark red, although they should have the same treatment as just described for the black-caps; however, I would advise planting one foot further apart each way, on account of their much stronger growth, and put but one to two plants in a hill.

Blackberries.—Small, early or early, some which are hardy and some which are tender, the most tender kinds. Quite a number of new varieties are now being put on the market, most of which are tender, while the fruit of those that are hardy is generally small in size.

Perhaps the best two kinds for market purposes of the old standard sorts are Kittatinny, where the climate is mild enough to grow peaches, and Snyder for the colder sections.

The best manner for planting the blackberry is in rows eight feet apart, setting the plants from two to three feet in the row. The cultivation of the Kittatinny must be discontinued after the first or second week in July, to check the growth and harden up the wood for the following winter. The Snyder being so hardy may be given richer ground, and cultivation be continued later, and on account of this advantage in its favour it may prove more profitable even in mild sections than the Kittatinny.

Care should be taken to pinch off tip ends of all new growth, when three feet high to induce throwing out side branches, and the old wood cut out after the bearing season. The mistake is made by many in allowing the suckers of both blackberries and red raspberries to grow for sale or for planting out. This plan very much reduces the yield of fruit, and also enfeebles the plants for the following season's fruiting. Those wishing to grow their own plants should have small plots for that particular purpose.

They should be allowed to remain on the bushes until after the raspberry season is over, come into market when there is no other fruit offered, and will then find a ready sale at good prices.

They require a soil inclined to clay and it should be very rich. Plant three by five feet and cultivate both ways. It is necessary to thin and cut out the old wood occasionally, in order to keep the plants renewed with good bearing wood.

Of the varieties of Gooseberries in common cultivation would prefer Downing and Smith's Improved, and the White Smith in localities where it succeeds.

Of Currants on strong soil, Cherry or La Versallaise for red, White Grape or Imperial for white, and Lee's Prolific for black, while many consider Fertile d'Angers, Victoria or Prince Albert equally or more profitable.

We have condensed the matter of this paper, in order not to make it tedious to its

hearers, and find we shall have to leave out the Grape, the most important and interesting branch.

To speak of its many varieties, and the soil adapted to each, would require a paper wholly devoted to the subject.

MR. SCOTT, Michigan.—In growing raspberries and blackberries we do not use any mulch of any kind. We use the four tines spading fork. We find that loosens the soil and acts as mulching. Of course it does not bring the roots to the surface as mulching does. In raspberries we do not want the canes nearer than six inches apart unless they are in hills, and then there would be three or four in each hill. We grow altogether on the row system. I do not think the majority of people who grow small fruits thin and prune them close enough. The heavier the soil the better I like it. I can grow large berries on it, and they are not so likely to be affected by the drought, and do not winter-kill. The Kittatinny we have discarded; it is not hardy enough. The Snyder bears every year, but it must have very thorough pruning. I aim to have the canes not closer than from ten to twelve inches apart; and I pinch them back in June, which makes them throw out laterals. Then I do not leave these laterals over 18 inches long at the outside; a foot would be better.

MR. BEADLE.—Here is a question just exactly in point. "Please give the names of three varieties of strawberries, red raspberries, and blackcaps that will be the most profitable to raise for market."

MR. SCOTT. I think Mr. Morris has answered that perfectly. The varieties I would name would be the varieties he has given in his paper, although in blackberries he mentions only the Kittatinny and the Snyder. I would mention the Taylor's Prolific. The Wilson's Albany is conceded to be really the strawberry. I would also name the Crescent and the Manchester, or James Vick. The Manchester, I think, is going to be a good berry. The Cuthbert is our red raspberry. We grow that almost exclusively, and find it pays us better than almost any other variety. I would add the Turner and the Brandywine. For blackcaps I raise the Souhegan and the Tyler. If you have one you have about the other. They are just about the same. I have them growing side by side, and I can detect very little difference. I make more money off the Gregg than off any other raspberry that I have on my ground.

MR. BEADLE.—Do you know a blackcap by the name of the Ohio?

MR. SCOTT.—Yes; it is a trifle earlier than the Gregg; but I can make so much more money off the Gregg, that I only raise a small plot of the Ohio. It is a very good berry for drying.

A MEMBER.—What have you to say to the old Philadelphia red?

MR. SCOTT.—I have discarded it altogether because I could make more money out of the Gregg.

MR. MORTON.—Do you know a berry called the American red?

MR. SCOTT. I do; on the right kind of soil it might do well; but you have to attend it like a baby. He speaks of making more money off ten acres than you can off a hundred acre farm. I believe I can make more money off five acres than off a hundred acres.

MR. MORRIS.—I would like to ask Mr. Scott if he has ever tried the plan in growing blackcaps of growing the wood one year and fruiting the next.

MR. SCOTT.—No, I have not; I want a crop every year, and I get it. I thin them thoroughly so as not to have them overbear. I get a hundred bushels to the acre every year. For taking out the old canes, which I do immediately after they have done fruiting, I use a hook about a quarter of an inch thick and an inch wide put on a stick two and a half to three feet long. By having a whetstone along with you, you can keep it sharp, and just pull these canes right out.

MR. MORTON.—Have you ever tried the hill system as opposed to the row system?

MR. SCOTT.—Yes; I have given the hill system up altogether.

MR. MORTON.—By the row system what would be the width apart?

MR. SCOTT.—In raspberries I have them six feet apart; in blackcaps from seven to eight.

THE PRESIDENT.—Have you had any experience with the white varieties of raspberries? How has the Caroline succeeded with you?

Mr. SCOTT.—We have succeeded with it; but it does not do very well. It would do for an amateur variety.

Mr. BEADLE.—What do you think of its quality?

Mr. SCOTT.—I like it very well.

Mr. BEADLE.—How long does Mr. Scott keep his red in bearing with continuous fruiting?

Mr. SCOTT.—My oldest bed is six years old.

A MEMBER.—Have you tried the Crimson Beauty?

Mr. SCOTT.—I have not tested it; not under that name.

Mr. A. M. SMITH.—Have you fruited the Queen City or Highland Hardy?

Mr. SCOTT.—I have fruited the Highland Hardy, and I do not find it profitable enough. It will bear a medium crop, but the berry is rather small. I do not like it very much.

A MEMBER.—Have you tried the Reliance?

Mr. SCOTT.—No; I consider it a soft berry from what I have seen of it.

Mr. BEADLE.—It is supposed to be a seedling of the Philadelphia.

Mr. WOODWARD.—I suppose it was. Mr. Scott's extra New York market which prevented him from telling what his receipts were on two acres of blackberries. His net receipts on two acres were two hundred dollars.

Mr. SCOTT.—There is a good deal in the picking. I do not allow my pickers to carry a basket in their hands at all. They use one hand for opening the bushes and the other for picking. Not a berry goes off my place unless it is sorted; and in the Detroit market a neighbor and myself average over a dollar a bushel, but others that send from the same place. The lowest price I sold them at was six dollars a bushel. I market them in crates. The baskets hold a full quart.

Mr. GOTT.—As I understand from Mr. Scott, he grows his canes in rows, and grows them six inches apart in the rows. Now, the point arises how are the enormous yields got that are sometimes reported. From about an acre we thought we had a pretty heavy crop—we had fifteen to sixteen hundred quarts; but we get accounts from some of our raspberry buyers of crops of six thousand quarts. I cannot understand how that quantity can be put on an acre. I supposed from the reading of it it was close culture, mass culture. I know I saw some raspberry patches myself in which the bushes were massed; there was just a little space for walking between the rows, and the whole of the rest was a mass of canes; but I could not say that they were vigorous, fruit-producing canes.

Mr. SCOTT.—They are not in single rows. There will probably be an average of three or four plants in width. The rows are at least a foot and a half wide. I think the reason most people do not get as good yields as they ought to of raspberries is that they do not thin out the young canes. The idea of Mr. Morris that it is best to have a little patch to raise your plants on is the right one. My average yield of raspberries will be from eighty to a hundred bushels to an acre.

Mr. BEADLE.—Mr. Scott said he sorted his berries before sending them to market. Now, the great trouble with many of our fruit growers is this.—they will send their berries to market just as the pickers have a mind to bring them. The result of that is that they get five or six cents a quart for them. They get all they deserve. Now, see the difference that careful picking makes. This gentleman tells us that he averages six dollars a bushel, which is eighteen and three quarter cents a quart.

Mr. SCOTT.—I would rather have women than girls or boys to pick. Then having the right kind of foreman with them they will pick clean. In sorting we do not handle every berry, but I have the sorters pour them gradually into the basket.

Mr. A. M. SMITH.—What is your soil?

Mr. SCOTT.—It is a clay loam. I laid out a new piece in a terribly heavy soil; you could hardly break it up with a mallet. The next year we had a very severe winter; but out of that patch there was not a cane killed; and if the patch had yielded as it did it would have brought me in a thousand dollars an acre.

Mr. GOLDIE.—At what time do you thin out the surplus canes?

Mr. SCOTT.—In the spring or fall.

Mr. GOLDIE.—How long do you top them?

Mr. SCOTT.—I top them from three to three and a half feet high when I cut them back in the spring. In general when they are growing I would rather nip them at two feet than have them three.

Mr. GOLDIE.—Do you top them in the summer when they are growing?

Mr. SCOTT.—Yes.

Mr. GOLDIE.—And allow them to throw out laterals?

Mr. SCOTT.—Yes; for cutting back the lateral canes I have a light pair of shears. The blade is about ten inches to a foot long, and the handle is very light. If one cane is a little more slender than another I nip it off. I do not top the laterals at all; but the cane stalk I cut off. The laterals I do not cut off until late in the fall.

Mr. GOLDIE.—Do you cut the laterals close off, or do you leave a portion of them?

Mr. SCOTT. From a foot to eighteen inches, not over eighteen inches.

Mr. MORTON.—Are your snows deep over there?

Mr. SCOTT.—This winter it is ten inches to a foot.

Mr. MORTON.—Do you tie them up at all?

Mr. SCOTT.—Not at all.

Mr. SUTHERLAND.—Wilson's Albany and the Crescent Seedling are the most profitable strawberries for me.

Mr. PARKER. Mr. Sutherland told me that he was very much disappointed in cutting out the runners. He said he had experimented by allowing one and in some cases two runners, and he found it to increase the crop.

Mr. SUTHERLAND.—I have cut off the runners some years, and they would run too much to foliage.

The PRESIDENT.—Do you grow in the row system or in hills?

Mr. SUTHERLAND. Some I grow in the row system and some in hills. I have thirty-two different kinds of berries; but the Wilson's Albany and the Crescent Seedling are the most profitable. Almost any other kind is better, though. The Sharpless, the Charles Downing and the Triumph de Gand are of better quality.

Mr. A. M. SMITH.—Have you tried Mr. Arnold's seedlings?

Mr. SUTHERLAND.—Yes; I have four of his; but they do not do with me. They sun scald.

Mr. WOODWARD.—Mr. Gott wonders at the reports of the yield of raspberries. Now, if he would go down into Delaware and Southern New Jersey, and see the way they grow raspberries there, he would not be surprised to see them grow up to seven or eight thousand quarts to the acre. They stand six or eight inches apart in the row. The laterals are cut off, and then there is a regular top to each little bush, which they cut off about a foot long—shear it right out; and then these throw out laterals and put on the berries. Then when the pickers are at work, they do not seem to be moving along at all, but they seem to be filling crates up all the time. Before the laterals were trimmed in the spring I could hardly reach them with my hat. I know a man at Camden Station who has about eighty acres of raspberries, and who has made his fortune out of them—Cuthbert raspberries. They use barnyard manure and fertilizers. They use large quantities of lime made from burning oyster shells.

Mr. MITCHELL.—Off a piece of strawberries five feet wide, the rows only a foot apart and twenty feet long, I have picked a hundred quarts in the season. I may say that when I commenced in a small way to grow gooseberries, I only purchased one Downing bush, but it was a pretty good sized one. I planted it and took very good care of it, and the next year I filled a half gallon measure four times from it. The next year I would have had more, but they increased the size of the measure to imperial measure.

Mr. MORTON. I would like to ask any strawberry growers who have had a rampant growth, if they have tried wood ashes? I tried bone dust one year and ashes the next year, and whether it was the one or the other, it had the effect of forming more fruit and seemingly of checking the rampant growth.

Mr. DEMPSEY.—I have used wood ashes on small fruits ever since I have been engaged in growing them. Four years ago we tried bone superphosphate and bone dust, using five hundred pounds of each to the acre, and we applied wood ashes on two acres adjoining the ground that we used the superphosphate and bone dust on, and the result

that we had six and a half acres, while in the other we had but three. One of my neighbours, who lives five or six miles from my fruit garden, told me that he had half an acre of Wilson's Albany Strawberries last year that he had given extra care to. He had manured very highly, but had used stable manure. He is a gentleman who has never used any of those artificial manures, and from that half acre he picked nearly seven hundred quarts of strawberries. I tell this simply to let you understand that my opinion is that there is more profit in cultivating well and manuring highly a small piece of ground covered with small fruits, than in cultivating a large area and doing it by half. This gentleman has been trying different varieties for a number of years, but he was telling me the other day that he would not plant anything but Wilson's Albany after this. I would plant Crescent Seedling, because I get more money out of it.

THE GARDEN.

Mr. John Croft read the following paper:

In compliance with request I have prepared a few remarks on gardening. I will not trespass on your time with an apology farther than to say they are intended for beginners, such as have yet to learn there is pleasure and profit in the pursuit.

Many tell us they have no time for garden work. I do not believe the Almighty ever put a man in such a situation. The same wise Being who thought it not good for man to be alone, deemed it good for him to have a garden; that was God's first gift to him—Genesis 2nd chapter, 7th and 8th verse. How that fair spot in Eden was arranged we know not, but, planted by God's own hands, it must have been like all his works, beautiful.

Some look on gardening as attended with much trouble. Is there anything worth having that costs not trouble? And are not the hardest earned pleasures often the sweetest?

True, the wise man says: I made me gardens and orchards, and planted in them all kinds of fruit, etc., winding up with the assurance that all was "vanity and vexation of spirit." And so it will be with you, friends, and with me, whenever, like Solomon, we attempt to derive unmingled satisfaction from any of the world's employments or amusements. Others plead their ground is not suitable, or their space too limited. Perhaps the taste is lacking; try and cultivate it.

The *American Agriculturist* says: "The most successful gardeners are those whose preparatory work is most complete." Bearing this in mind see that your implements are in good repair.

If your garden reel is not in order, it is a simple matter to make a wooden one; it will answer every purpose. The hot bed frames and sash probably want repairs. Seed boxes are easily made out of old tea boxes sawed into flats three inches deep. A tin or zinc band round the corners will prevent their spreading. Have your manure and earth ready for the hot beds. These, and many other little matters, will be good employment for some of these rough days, and will much lessen the hurry of spring. Study the seed catalogues, make your selection, and order at once. Clubbing with some of your neighbours, you will be able to purchase at reduced rates.

A word now on the laying out of your kitchen garden. Remember, I am speaking of gardening for profit, borrowing no man's system, acting on information common to you all, with the little experience that I have earned. I think it best to keep the fowls in their yard. If you allow them to run at large you will require a sufficient fence to exclude them, otherwise you may have a wire trellis for grape vines as an enclosure. On the north side a six foot close board fence will afford shelter, and it, too, may be covered with vines.

The garden should be convenient to the house. It may be sheltered, but not shaded by trees. Fortunately most vegetables thrive on any ordinary soil; perhaps the best is a sandy loam. Thorough drainage is absolutely necessary. The size will be regulated by the requirements of the family, and the quantity of vegetables you can profitably dispose of. While many may be well suited with much less, an acre laid out in the way we will suggest will not be found too much for most farms, and will, we think, after paying all

extra working expenses, yield a return at least double that can be had from the usual farm crops. As to shape it may be as your taste or circumstances dictate a square or parallelogram as convenient as any. Dispensing altogether with fruit trees, the proper place for which is the orchard, unless it be a few dwarf trees along the outer side, the ground may be ploughed in half a day. Supposing this to have been thoroughly done, and manured in the fall, let it be well harrowed, levelled, and stones picked. Lay off a portion on the south side in rows, enough for a full supply of black and red raspberries, the former four or five and the latter three feet apart in the row; gooseberries and currants next in rows, bushes five feet apart each way. As to varieties of the above and vegetables following, I will only mention kinds I have been in the habit of planting and found good, and refer you to the *Horticulturist* for full information.

Black raspberries I have, but not yet fruited. The Philadelphia red, hardy as an oak, very prolific and good. The cherry and white grape currants have done well with me. Fay's prolific has not yet fruited with me; it looks well on paper: I have no doubt it will be an improvement. This is all I can say of Lee's prolific black currant. Heligol (white) mixed with water, about two tablespoonfuls to a pail, is certain destruction to the currant worm. Apply with a whisk.

Mildew has been a great drawback to the cultivation of Gooseberries in our locality. Sulphur dusted on the bushes at intervals during spring, I have found beneficial. The Houghton's Seedling and Downing have never mildewed with me. Next to the above commence your vegetables in rows; avoid the old fashioned method of dividing off into small beds. I never see the farmer's wife straining her back over these patches, but I think she must feel in all its intensity the force of the words, "in the sweat of thy face thou shalt eat bread." Those of you who have been in the habit of using a seed-sower know more of its working than I can tell you. Occasionally, I have used one, but on the whole have been better satisfied with the slower method of sowing by hand. A man and smart boy, *better if they be both smart*, will put in a large piece in a day. We start with peas.—The ground well harrowed, and raked with a steel rake, set your line, a *good strong one*, fifty feet is none too long. I use for marking the furrows a three cornered iron made out of an old hoe, two inches wide at the top. Work this along the line, walking backwards, at each step placing your left foot on the line, to prevent its moving, you can make your furrows very quickly. Drop your peas, I *speak of the dwarf kinds*, about two inches apart, they should be set at least three inches deep; cover with the rake. I sow Bliss's American Wonder, and will no other, till I find a better. Continue sowing at intervals of two weeks to have a supply for the season. With a ten feet pole at each end of the line, space out for rows of lettuce, early and late; parsnips, beets, carrots, onions, beans, sage, summer-savory, etc. Sixteen to eighteen inches is a good distance apart for the rows. In this cold north we start our melons in frames, some of these are large, twelve by six feet, and are placed over the rhubarb plants in the fall, and then left till the melon plants, raised in pots in the hot-beds are ready for them. These frames we fill up with lettuce plants, previously raised in the hot-beds. They will stand as **much heat as the melons**, and come in early.

Next (still in rows) plant your early potatoes twenty-seven inches between the rows. I prefer single eyes set eight inches deep, ten inches apart.

Plant your tomatoes and melons next, provided the danger of frost is over; one plant of tomatoes and two of melons to the hill, four or five feet apart. You still want celery and corn. Some plant celery on the surface, instead of trenches, I prefer the latter, not too deep, say eight inches, a good supply of well rotted manure, thoroughly incorporated with the soil. If you have more than one trench, let them be at least five feet apart. I have reserved corn for the last, that is in rows along the north side, as it would too much shade vegetables if they were on the north side of the corn.

The remaining space between the celery and the corn you have for a strawberry bed, rhubarb and asparagus. Reserve the corner of this lot for hot-beds, tool-house etc.

The following kinds I have found good: Cabbage, Jersey Wakefield for early, and Quintal Drumhead for late; cauliflower, early dwarf Erfurt; carrots, scarlet intermediate; cucumbers, white spine; celery, golden dwarf; corn, Moore's early sweet; beets, dark red Egyptian (early) and Carter's perfection salad; late, musk-melons, bay view; water-

melons, in cream, red, and large and Wethershead and Drovers Yellow, potatoes, Beauty of Hebeon, parsnips, long slips, &c.

Arranged in the way we have endeavored to describe, you have a large garden easily managed. The planet potatoes are a good spade, cast steel rake, and scuffle hoe. This last a very inexpensive implement I find is so general in the garden; yet strange to say many of our agriculturists do not use such an implement. It is just the thing for these long rows, start with it as soon as you can see the rows, you will be surprised how quickly you can get over the ground with it. I have always carried in my pocket a note-book, principally of Fall work to prepare for winter, and winter-work for spring, it will guide you in the multiplicity of work, to do the most needful first. Besides this you want a garden diary, furnish yourself with a three or four quire folio bound book, it will cost little; enter therein every thing as sowed, and set aside a portion of it for remarks: you may have failed or been successful. Note results and profit by them.

To wind up these straggling suggestions let me add, in all your work be thorough. Remember whatever is worth doing is worth doing well. Cultivate friendly intercourse with your neighbour; some lesson you'll learn from him, repay it in the same coin.

Mr. WOODWARD.—With regard to implements for cultivation, we have found on the one side that a man will use a three light wheel hoe, which will improve ten teeth and those not very wide will do as much work in ten minutes as he could do in half an hour with a hoe, and do it easier, and it kills the weeds thoroughly.

Mr. BEADLE.—And not only kills the weeds but tills the soil better than it can be done in any other way.

Mr. SCOTT.—For some years we have used large Planet Juniors, but I found that if instead of sowing them with the other vegetables, parsnips and turnips, I sowed them about a week later I got them a reasonable size and much better for cooking.

Mr. A. M. SMITH.—There was some question asked with regard to wheel hoes or cultivators. Perhaps some of our American friends could give us some information about them.

Mr. GARFIELD.—I have a wheeled cultivator, and I like it very much. In sowing peas I can make a row faster than I can with a hoe, and I can make two rows and cover them. I use the same instrument to advantage, also as a border iron around my paths and drives. I had always previously to cut them either with a spade or with an ordinary hoe, but I found that by going to the blacksmith shop and spending twenty-five cents I got a sharp attachment made which does the work nicely. This is a recent thing. It is manufactured at Hingham.

Mr. GILCHRIST.—I have had a little experience with wheel hoes, and I find that with it we can do as much work in one day as we could in six with the scuffle hoe. We have used both the Planet Junior and the Matthews(?), and we find the Planet Junior best adapted for very small plants, such as onions just coming through the ground. It takes away the weeds from both sides. We use different teeth when they get higher up. We never use the old hand hoe unless the weeds happen to get very large. I did not think the implement combined all the qualities that we required, and I got one made which I think is still better than the Planet Junior or the Matthews. I see there are quite a number advertised now which will perhaps be superior.

Mr. CROIL.—May I ask what kind of soil you use this on? I have one, and I thought I was going to save a great deal by it. Well, I worked an acre of peas with it. The soil was pretty mellow, and it worked pretty well; but apart from that I would not exchange a scuffle hoe for it. It would not work on hard ground at all. If you take the rake in time it will destroy the weeds; but the hoe will do it more effectually.

Mr. BEADLE.—Not more effectually if you take it in time.

Mr. SCOTT.—If you go over the ground first with your hoe and then rake off the weeds you will find it the most effectual, I think. I bought one of these hoes last year, and I find that if the ground is pretty deep it does pretty well, but that it very easily clogs up, and that in heavy ground it will not do well at all. I found that considering the labour it required to drive it, the work it did was not equal to that of the scuffle hoe and the rake. There is another combined wheeled hoe and cultivator that answers very well.

is a more expensive implement. It costs about thirteen dollars. I have heard it does very good work.

Mr. MITCHELL.—I thoroughly endorse what Mr. Croil says about the Dutch hoe or push hoe. I wonder it is not used a great deal more than it is. Of course you do not want to walk over the ground. Mr. Croil seems a little in doubt as to Lee's Prolific currant. I have tried it now for three years, and I think for family use it is the currant of the year. I have the Ogden's Black, the Black English and the Black Naples, and as a proof that we find it the best, we have now more currants from it than we need to use, and we have given those from the other three away to our friends.

Mr. GRAHAM.—With regard to those garden implements, having run a market garden now for the last fifteen years, I have used a considerable number of those instruments, and I find the Planet Junior a very good implement in the garden, especially for carrots, cabbets, and that kind of plants—but only for the first going through. After that I use another implement made in Philadelphia: I think it is Holbrook's. That is a very excellent implement for running through the second time, and one that a man will make great headway with. It stirs the soil very effectually, especially if taken before the plants make much of an appearance. I have also used another wheel hoe. It is one with a very light frame: the two handles are not over an inch in thickness, and perhaps an inch and a half in width: the wheels are also very light. There is besides a hoe made with two wings that extend about ten inches. It is very light, and a man can run it any depth he likes. That also makes very excellent headway. A man can run it along as fast as he has a mind to walk.

Mr. A. M. SMITH.—In regard to Lee's Prolific currant, I have heard it condemned in some quarters, and I think that results from the fact that there have been two different varieties sent out as Lee's currant. At least I have received two as that. The first one I bought tasted like the Black Naples.

Mr. PARKER.—I would like to hear the opinion of some gentleman present as to the best way of firming the ground after the seeds have been put in.

Mr. GILCHRIST.—That depends a good deal on the soil and other circumstances. If the soil is very light you want to firm it, and firming it with your feet is about the best way you can do it in a small garden. If you have a garden roller it is better: but early in the spring you do not require it. It is with the later crops you want to firm the ground. With all fine seeds, the ground requires to be well firmed. Very heavy land does not require so much.

ORNAMENTAL TREES AND SHRUBS.

Mr. James Goldie read a paper on the above subject, as follows:—

We believe the time has come when more general interest should be taken in rare and beautiful trees and shrubs, suitable for general cultivation in Canada. We in Canada are far behind England in trying to grow anything but the easily obtained and hardy common trees and shrubs, most of them being quite unsuitable for the lawn or shrubbery. Lately more interest has been taken, and in consequence many fine things have been introduced and tested, but generally speaking, the old order of things still prevails, and Poplars, Willows, and other coarse and unsuitable trees are too much used. During the past few years I have given a good deal of attention to this matter, and have been testing some of the newer introductions and hope to prove that many of them will be quite suitable for our climate, and although we can never hope to grow the fine broad-leaved evergreens that make the parks and gardens of England so attractive, we have yet a great many things to fall back upon, and to be thankful for.

Very few of the Conifere of the mountain region of India or those from Oregon and British Columbia will succeed with us. Generally speaking, we may hope to succeed better with deciduous trees than with evergreens, as they mostly ripen up their wood in preparation for a season of rest better than many evergreens, and are thus enabled to withstand the extreme cold of winter. Many evergreens also, if planted in the full glare of the summer sun, will not thrive nearly as well as if placed in a more cool and shady spot. The extreme dryness of our climate is certainly a great drawback to successful evergreen culture.

I will not tell a thing I have grown during the past year or two, and I may say that whatever we grow in the district around Guelph, may be considered to be hardy enough for all the colder settled parts of Ontario. Guelph being over eleven hundred feet above the sea, has a very harsh and severe climate, and nothing that is any way tender will stand it. The common *Thuja Occidentalis*, with its many varieties, is one of the hardest and most useful evergreens we have. Some of the varieties are very beautiful when grown as specimens. I have *Glauca*, low growing, light green in colour, and compact and globular in form. *Haywardii* large, light yellowish green, compact in growth; *Douglassii* fern-leaved, fern-like in foliage, and of a somewhat stiff leaf; *Siberica*, a compact upright grower, fine for a specimen tree, and the very best we have for an evergreen hedge. *Vervaeana*, a fine yellow variegated variety; *Lutea*, the finest yellow one I have seen. This I think will be a very pleasing variety. *Edward's* dwarf, *Tom Thumb*, a low growing fine leaved one, something like a heath in foliage, fine for edgings or small beds; *Little Gem*, sent out by Douglass & Son of Waukegan. This one is well named, it is a perfect gem, more like a *Juniper* than an *Arbor Vitæ*, never growing more than a few inches high. There are many more varieties, but these are all that I can confidently recommend.

One of the most beautiful class of life introduction is the *Retinosporas*, some of them growing to the size of trees, others more like a giant *Lycopod*. They are all a most desirable class, but unfortunately very few of them will stand with us. *Retinospora obtusa* is the most hardy I have tried, and is apparently as hardy as an *Arbor Vitæ*, which it much resembles, only much finer in the foliage. *Pinnosa*, tolerably hardy if planted in a cool, well sheltered and rather shady spot. *Erioides* has always been so well protected with snow that I cannot pronounce it hardy until further trial. *Filifera*, *Erioides*, *Leptocarpus*, and *Lycopodioides* have all been so protected with snow the past few winters that I cannot pronounce on their hardiness if exposed to the inclemency of a severe winter without protection. They are all so beautiful that they will be a great acquisition if they prove hardy. *Retinospora squarrosa*, I think, will be hardy. In a communication from Mr. Hogg, he classes this and *obtusa* as two of the most hardy ones likely to stand our winters.

The next very interesting class I come to is the *Junipers*. There are a great many varieties amongst them, every way suited to our climate. They are particularly well adapted to the evergreen border and the rockery. *Juniperus Chinensis* stands well. *oblonga* is very pretty and hardy. *Prostrata* is a fine trailing species and very suitable for rockwork. *Squamata* is one of the finest rockery ones we have. *Tamariscifolia*, a low growing one, something like the *Scotia*. *Canadensis* or *Alpina*, a native low growing, spreading species, very fine for all kinds of rockwork, and too little valued, perhaps because it is so common. It grows freely along the upper lakes and in various parts of the country. The well known *Sabina* is a very useful species. The variegated variety of this species is very handsome. *Virginiana* commonly gets the tips of its young wood touched with the frost, otherwise it stands well.

Chamaecyparis spherocarpa, the White Cedar of the Middle States, has not stood satisfactorily with me, and I am afraid it will have to be discarded. Another of the failures is the *Nootka Sound Cypress*, which I am sorry for. It may stand at Niagara, but will not do here. All of the *Biotas* I have had to discard. They are too tender to stand our winters; also the English yew in all its varieties. The common native one, *Taxus Canadensis*, makes a fine little evergreen for a shady border and is well worthy of more general cultivation. *Taxus adpressa* from Japan is a very hardy yew. It is a small low growing shrub, and has stood well with me. *Taxus cuspidata*, another Japan novelty, I have not tried, but it will no doubt prove perfectly hardy. The *Podocarpus Japonica*, which can well take the place of the yew, I have not tested myself, but in the neighbourhood of London it seems to stand well, and it is one that Mr. Hogg classes as very hardy and likely to suit us. The beautiful *Cupressus Lawsoniana* has with me been all killed above the snow line. It is a source of great regret that this lovely evergreen in all its varieties has to be given up. It is just possible that in the Niagara district it may prove hardy enough to stand the winter, but certainly in this vicinity it will do no good.

A very interesting class for the lawn and border is the small dwarf varieties of the

Norway Spruce, some of them hardly growing higher than ten or twelve inches, and very close and compact. I have several varieties of them and find them all as hardy as the parent species.

Malonia aquifolium is a very nice small evergreen for clumps and shady border. It is worthy of more general cultivation. When properly attended to it forms quite a good sized shrub. Everybody knows the Norway Spruce and Austrian Pine, they are the most hardy and useful of all the Coniferae we have, either for shelter or ornament. What can be more beautiful than a fine well-grown specimen tree of the Norway Spruce? and yet a great many people are so depraved in their tastes, that they must forsooth try to improve its beauty by ruthlessly shearing it into a ball or some fantastic shape, and thus destroy its beauty forever. One of the prettiest of the spruces for lawn purposes is the Blue Spruce of the Rocky Mountains, the *Picea pungens*. This is considered by some botanists only a variety of the White Spruce. It is well worthy of general cultivation.

Abies Celica and *Concolor* are quite hardy. *Picea Nordmaniana* has stood when covered with snow, but I have some doubts of it proving quite hardy when exposed. *Picea pichta*, from Siberia, is hardy and also a very beautiful tree. *Abies Douglasii* shows some signs of distress after a severe winter, but I hope it may stand better when it attains some size. *Pinus cembra* is shewing well; it is very like the White Pine, but more compact in its habit. *Pinus Mousoliensis* is a large pyramidal grower, so nothing like *Pinus ponderosa*. I have only grown it one year and cannot say positively whether it will prove hardy or not. It is quite hardy at Rochester and I think will prove so here. *Pinus Mugho* and *pumilio* are low-growing bushes, very suitable for the shrubbery border. One of the most interesting of all the Coniferae is the *Solidago verticillata*, or Umbrella Tree of Japan. The leaves are disposed in umbels and look very much like the skeleton of a Japan parasol. It grows quite well in the vicinity of Boston and stands the climate of Central New York. It will no doubt do well here. Every one who has a nice shady border and well sheltered should try a few *Rhododendrons* and *Azaleas*. The *Rhododendron maximum*, which grows so plentifully in New York State and Northern Pennsylvania, and also in some localities in Ontario, will undoubtedly do well if properly attended to. The *Kalmia latifolia*, a most beautiful native of all the Middle and Eastern States, can no doubt be successfully grown. All that is required with these things is to follow nature and give them a cool, shady situation and well sheltered, such as they enjoy in their native woods.

I have not tested so many deciduous trees as evergreens, but will note a few that are well worthy of trial, and I have no doubt but many of them will do well:—*Magnolia acuminata* and *Magnolia tripetala*, both hardy here. The following Japan *Magnolias*, Mr. Hogg thinks, will prove hardy with us, and are certainly well worthy of trial. *Hypoleuca*, a new Japan species, a tree of great beauty, fastigate in form, leaves a foot long, flowers creamy white, and very fragrant. *Kobus*, medium size, flowers bluish white and sweet-scented. *Parbiflora*, a new species and one of the finest of all *Magnolias*. The flower is a perfect gem and very fragrant. *Stellata*, introduced by Dr. Hall, is a small tree with pure white flowers of delicate perfume. If these or any of them prove hardy with us it will amply repay any trouble and expense they may occasion. The new variegated-leaved Japan Maples are also a class that is worth being at some trouble to test. They are all low-growing trees and are very suitable for the shrubbery. I will also note a few more of the new Japan introductions in hopes that some one will give them a trial. I only mention such as I have reason to believe will prove hardy. *Cerasus Japonica rosea pendula*, a new and rare tree, gracefully drooping to the ground, flowers in spring of a beautiful rose colour, a favourite lawn tree. *Cerasus Sieboldii*, *rosea plena*, and *Allia plena*. *Cercidiphyllum Japonicum*, a stately and beautiful tree of pyramidal form, a new introduction of great rarity. *Larix ceptolepis*, Japan Pine; *Malus coronaria* Halliana, fine pink flowers and long growing. *Platanus orientalis*, an elm, large, smooth, glossy leaves, and very ornamental. *Benthamia Japonica*, *Celastrus Oriza*, are choice new shrubs. *Daphne Genkwa*, Japan *Daphne*, one of the rarest and most interesting of shrubs. *Elaeagnus Japonica argentea*, silver-leaved Oleaster; *Elaeagnus longipes*, vigorous grower with yellow flowers; *Exochorda grandiflora*, a choice vigorous growing shrub with fine white leaves in great profusion.

Hydrangea paniculata grandiflora is now well known as one of the very best late flowering small shrubs we have. *Fraxinus laspadum*, small tree, handsome foliage, creamy white flowers in drooping clusters and fragrant.

Rhododendron Kerrii, a pretty shrub with white flowers; *Viburnum Japonicum latifolium*, introduced by Thos. Hogg from Japan, and one of the best new shrubs; *Abies Alcockiana*, a choice and curious evergreen; *Abies pectinata*, tiger-tail spruce, a pretty and curious tree; *Picea Kiamia*, dwarf spruce, very hardy; *Picea Japonica*, resembles *Nordmanniana*, rare and hardy; *Picea Koreanica*, very hardy and ornamental; *Pinus Massoniana*, a large growing tree. Added among a dwarf, bushy evergreen shrub, flowers in May of a purplish red colour and is perfectly hardy; *Salsburia adiantifolia* is not perfectly hardy with me. The young wood does not ripen well in fall and often gets cut off in winter. (Note.—It is perfectly hardy at St. Catharines.) I need not extend the list of trees any farther, as these, if all gathered into one collection, would be a large and very interesting one. Doubtless some I have named may not prove hardy or may be otherwise unsuitable for our climate, but I have not named anything but what I have reason to believe will be hardy in some part of our country. I feel that I am extending these remarks too long, but I cannot close without a word or two on the prevailing fashion in planting trees. Very few planters ever seem to consider that the trees will grow any after planting. Norway spruces and other large growing trees are often planted in small enclosures or in a lawn a few feet square, or stuck into borders within a foot or two of the margin, and even that is not enough, but they must put in three or four more where one is enough. After they grow up, they form a solid mass and eventually kill one another. On the public streets of our towns and cities it is the same. Three or four trees (often very unsuitable ones) are planted where one would be enough, and by the time they are grown up, if they do grow, they get trimmed up to look like a pole with a tuft of branches on the top. In planting a border, a lawn, or a public park, the planter should look ahead and consider what the effect will be in years to come. Let him realize that one fine specimen of a pine, a beech, a maple, or any other tree, standing out boldly and with its branches sweeping the ground is a far more desirable and beautiful object than a mass of them all crowded together and with no character or individuality to them whatever. After planting as many as are wanted for specimens, the ground can be filled up, if thought necessary, with shrubs which should be removed before they grow up to interfere with the specimen plants. This will prove to be much more satisfactory than the common haphazard system of planting.

I would strongly advise all receiving trees from a distance to plant them in nursery beds for a year or two, where they can be nursed until they recover. By doing so there will be far fewer failures than if they are planted out in their permanent places.

I cannot close without once more alluding to the too common practice of disfiguring evergreens by shearing them into all kinds of ridiculous and unnatural figures, no matter whether the habit of the tree is spreading, pendulous, or fastigiate. These despoilers treat them all alike. In a good many cemeteries nearly every tree in them has been thus destroyed by this absurd fashion. If these remarks, hurriedly thrown together, will be the means of leading anyone to experiment with some of the newer ornamental trees and shrubs which have lately introduced, I will feel amply repaid.

THE PRESIDENT.—There is one tree which it rather surprises me to hear Mr. Goldie speak of as hardy—the *Magnolia tripetala*—as I have not been able to grow it at all at London. The other variety, *Acuminata*, is perfectly hardy with us, and one of our most valuable ornamental trees. In referring to the Japanese *Retinosporas* he spoke of one species, the *Flifera*, which, I think, is one of the prettiest and one of the hardiest of all the *Retinosporas*. I agree that the *pisifera* is, perhaps, the hardiest of them all, but that is so much like our *Arbor Vitæ* that it does not strike a person who looks at it usually as much of an improvement on a very common evergreen. The *Podocarpus Japonicus* I have had growing for several years, and it is a very pretty evergreen now. It has not made much growth, but as far as I can see it promises to be tolerably hardy. I would not speak too positively of it, as one winter it was nipped a little at the top. The Blue Spruce, from Colorado, appears to be very hardy, and while botanists may think it a variety of our White Spruce, yet when it gets age the difference is very striking. The

Nordmann's Fir, I thought at one time, was hardy, and then there came a very severe winter that cut it down to the snow line. The Azalea amona is a very beautiful shrub indeed; it is covered with red flowers in the spring, and is most attractive. If any of you have occasion to go to Fairmount Park, in Philadelphia, in the spring, you will be struck with it. It stands the climate admirably there, but it is no use in our district; it kills down every year. The Daphne Jenkwa is a very pretty shrub, but I have only tried it once. I left it out during the winter, and in spring it was dead. Those Japanese plants are very expensive. There is another Daphne that I think is very much prettier than the Japanese one; that is the Daphne eucorum. It is a European one, and has proved hardy with me. It should have a place in every garden, but it is very little known. The Pinus Cembra has been referred to, the Swiss Mountain Pine—it is a valuable addition to our list of Conifera, and it appears to be perfectly hardy wherever I have seen it in Ontario.

MR. BUCKE.—I would like to ask Mr. Goldie if the Wellingtonia succeeds.

MR. BEADLE.—The only garden I know in which they are growing is Elwanger & Barry's. They had difficulty in getting them to grow with the roots half a yard below the frost line, but now they live.

MR. WOODWARD.—I was a little surprised to hear Mr. Goldie say that Rhododendrons grew extensively in New York. I only know of them in Elwanger & Barry's; it is hard to get soil to grow them in, and Elwanger & Barry imported the soil for them from New Jersey. They grow extensively in New Jersey, and perhaps in New York along the New Jersey line where the soil is similar. I think a fine plantation of Rhododendrons is one of the most beautiful sights you can imagine in the way of ornamental plants, but I cannot grow them. They will stand the winter, but they will droop down and die. Elwanger & Barry tell me it is the soil.

THE PRESIDENT.—Henry Wood Beadley is an extensive grower of Rhododendrons. He says it is all in the soil; that they abhor lime, but that you can grow them in black, mucky soil you get from the bush.

MR. WOODWARD.—A gentleman of my acquaintance applied some lime to his strawberries, and some Rhododendrons that he had growing near them were killed by it.

MR. GOLDIE.—Anybody going down the Erie railroad, through Pennsylvania, will see acres of them growing there. If you dig out in the winter black alluvial soil and make your bed deep enough there is no trouble in growing them; but you must put them in a shield position. Give them a northern aspect, and protect the cold part of the plant from the sun; give them rather a moist situation.

MR. BUCKE.—There is a tree now being introduced from Manitoba, the aceroides Negundo, a rapid grower, which I think would be a good tree to plant along the roads.

THE PRESIDENT.—It is such a small tree it is hardly adapted for a roadside tree.

MR. BUCKE.—I have seen them thirty feet high.

THE PRESIDENT.—It is very rarely you see them that high. The wood is brittle, the branches are easily broken, and I do not think they would compare favourably with our ordinary Maples. There are two varieties of the Negundo in cultivation, one of which has the leaves almost convex and the other concave. The convex is the northern form, and the other is the southern form. While the tree of the northern form will stand the climate away up in Manitoba, the other will winter kill in our neighbourhood.

MR. WOODWARD.—I have seen a very fine specimen of the Negundo in the form also. I must say a word or two for my two favourites, the Birch and the Hornbeam. I have seen some of them very beautiful, the Hornbeam especially. The latter, which tree is a perfect beauty.

MR. AIKENS.—Some of the old inhabitants of Woodstock have been very industrious in planting trees in the streets, and they have been very successful with them in some cases; but to my mind they have committed a very great error. One of our streets is a beautiful one, is one hundred feet wide, and some of the gentlemen have taken a great interest in that street and planted four rows of trees on it. Unfortunately in the first planting, which was just outside the sidewalk, the trees were put so near that now they are actually killing one another. The branches are intermingling, and they are not trimmed. There is also a row of trees planted, just inside of the gardens, and they have

now come together. I have been proposing to some of the council to thin these out, but when I do that I am looked on as almost a heretic.

Mr. GOLDIE.—The common way of planting trees for every one to plant, just to suit his own ideas. One will plant them six feet apart, and another one eight or ten. Very few ever plant them more than twelve feet apart on the public streets, and then they are very unsuitable trees often. I hold that trees on public streets should not be planted nearer than twenty to thirty feet apart. In the city of Utica, New York, the trees are so close that the houses are shaded so much that they are damp and unhealthy. On the main streets they are not more than six or eight feet apart. They have to be trimmed up to allow light to get into the houses, and that kills the trees. The larger limbs have to be taken off. In the Capitol ground in Albany the trees have been planted, perhaps, thirty years, and they are so thick you cannot drive a carriage through them. The consequence is that for thirty feet up the limbs have died off. The Sugar Maple is about the only tree that is planted here. I think the Elm is a better tree than the maple. The elm, where it thrives, is, I think, one of the finest of trees. It spreads, and allows a greater amount of wind and sunshine to pass through it, and it makes a beautiful tree. Unfortunately, it is more liable to the attacks of insects than almost any other tree that is planted. Then our native Basswood makes a very nice tree. I like to see an avenue with a row of trees on each side, all of one kind. In the city I come from, the city of Guelph, the council a few years ago voted quite a sum of money for planting one of the main streets, but like a great many other councils they knew but very little of what they were doing. There were two rows of trees planted on each side of the street. They should have ploughed the ground up and levelled it and made a nice surface, as the ground was very rough, up and down every way; but instead of that they planted the trees on the ground just as it was. There were hundreds of dollars worth of trees planted on that avenue, and to-day there are not a dozen of them that are worth anything.

Mr. AIKENS.—I agree with Mr. Goldie that for certain distances the trees should be of one kind. I think our native Rock Elm is one of the most beautiful trees we could have. I think twenty or thirty feet apart is too near to plant trees in the streets. I think they should be forty feet apart.

Mr. WOODWARD.—The trouble in our cities in western New York is that the land is so valuable and we make our streets so narrow that we do not give the trees room to grow. I have a beautiful Elm near my house which I would not cut down for anything; but it is planted so near the sidewalk we have to keep cutting it away to give it room.

Mr. PARKER.—When Mr. Goldie speaks of councils not knowing what they are about I suppose he is speaking of Guelph and not of Woodstock. If he lived in Woodstock and was acquainted with our avenues and trees, and with the way we have set our trees out, he would find that they were the pride of the town. We passed a by-law some years ago to encourage the planting of trees, and the result is that there is hardly a residence street in the town that has not rows of beautiful shade trees in it. I think Woodstock has set an example to Guelph and to every other city. Our principal street, Van Sittart avenue, is 122 feet wide, and there are four rows of trees on it, Maples, Basswood, and Lindens, giving us an avenue of trees a mile long. The trees were set out twenty years ago, and now they are getting to be a little too close together. They were set out a little too close, about twenty feet apart; but the people now think it better to trim them up than to thin them out. I think there is no more beautiful tree than our Canadian Maple for a shade tree. In American cities I have been delighted to see the fine avenues of Elm trees, but the limbs spread out so far that they reach the eaves of the houses and fill the eavetroughs with leaves, and are in that way becoming a nuisance.

QUESTION BOX.

The afternoon session was opened with the answering of questions from the Question Box, as follows:

QUESTION.—Is there any means by which the ravages of the root or ground Aphis can be checked?

Mr. BEADLE.—I have seen the Aphis upon the roots of Apple Trees, not seriously

enough, though, in our section, to make any trouble: but I understand there are some parts of the country where they attack various plants. I heard a gentleman saying they destroyed his geraniums in his flower garden by preying on the roots. I have no experience myself; but I know that there are some things being used in France with the hope of checking the ravages of that terrible insect which preys upon the roots of their grapevines. I suppose a teaspoonful of bisulphide of carbon poured into a hole in the ground would accomplish the desired result.

THE PRESIDENT.—Bisulphide of carbon has its drawbacks. In the first place it has an abominable smell, in the next place it is explosive if it is brought near a light, and then it is too expensive to employ freely in ridding ourselves of these insect pests. The vapour is heavy and poisonous. The mode of applying it is to make a hole in the soil with a suitable instrument deep enough to be below the roots, pour a tablespoonful of this substance into the hole, and cover it up. The liquid being volatile it permeates the soil and kills the insects. I am under the impression that the root louse on these plants may turn out to be a distinct species, and that those attacking the clover may be different from those attacking the geranium. There has been during the past year a great deal of injury done in the fields of clover and grass in western New York and along the frontier by the chinchbug. It is a very small insect, and it might be mistaken for a root louse. The root louse is a very difficult thing to get rid of; but the plan suggested, and the one that seems the most practicable, is to mulch the ground in the autumn. This will induce the insects to come up, and in the spring the mulch should be scraped away from around the trees and a plentiful application of hot water made.

MR. BEADLE.—What will bisulphide of carbon cost a pound?

THE PRESIDENT.—Wholesale about twenty-five cents a pound. I suppose there would be about twenty tablespoonfuls in a pound. In France, I think it can be got at from about fifteen to eighteen cents a pound. There they recommend putting from one to two ounces in the hole when using it for the Phylloxera.

MR. BEADLE.—My impression is that if you put about half a teaspoonful in a hole in connection with geraniums it would rid them of the insect.

MR. BUCKE.—How far apart are the holes made in the ground in France?

THE PRESIDENT.—I think four feet apart. In almost all the large seed stores in the United States they fumigate their peas now with bisulphide of carbon; they find that is a perfect remedy for the pea bug; it kills them all.

QUESTION.—What is the best mode of planting and growing asparagus to secure the greatest quantity of good size from a given quantity of land?

MR. DEMPSEY.—I have had very little experience in the culture of asparagus. But the majority of people are apt to plant asparagus too close and to be afraid that they are going to make the land too rich. You cannot make it too rich. I fancy that is the main point to be looked to.

MR. ANDERSON.—Some eighteen years ago I was working a farm in the country about four or five miles from here, and I turned my attention to market gardening and supplied this market. My first object was to get early vegetables, and among them early asparagus. I planted out a bed about twenty rods long, first ploughing it as deep as I possibly could and manuring it thoroughly at the bottom. I set the rows about three feet apart and the plants about a foot apart in the row and manured it heavily. The first year there grew nothing from it, and the second year nothing but for home use. After that I gave it a good coating of manure both spring and fall, and put on salt or strong brine to keep the weeds down. At that time I could not find customers to take all my asparagus. Now I cannot supply the demand.

MR. GRAHAM.—I have had about fifteen or sixteen years' experience with asparagus. I have an acre and a half of it. In choosing a sight for asparagus I take one facing the south. If of a sandy nature, so much the better. I subsoil it to the depth of eighteen inches if possible. In subsoiling I put on a good heavy coat of well-decomposed manure. Then after I get my ploughing done I give it another coat on the surface and drag it thoroughly. I then mark out my rows two or three feet apart; take a plough and turn a furrow seven or eight inches deep, and put the roots in there. I place them about eighteen inches apart in the row, and put them down to a good depth so that the crown

of the plants when set will be from three to four inches below the general surface of the soil. In that way you can drag over the plants in the fall without injuring them. Another advantage is that in setting it in the spring you are not liable to injure the crown with the knife. After the asparagus comes up, and we have been cutting it two or three weeks, I take a scuffle plough and run through and throw a light furrow up on each side. Then I make an application of salt, about ten barrels to the acre. In that way I find it does remarkably well. I cut my brush off in the fall of the year and burn it. Then in the spring I put on a good coating of manure and barrow it in. I would not put the rows nearer than three feet apart. The roots expand on each side, and the bed will widen up to twelve or sixteen inches in width. On the outside the asparagus is rather better on account of the roots being young. I have a bed that has been in use now for the last seventeen years, and I believe it is as good to day as it was within two or three years after the plants were put out. We have two varieties of asparagus, the common variety and Conover's colossal, but my experience is that you get the colossal by good thorough cultivation.

QUESTION.—Which is the most profitable to raise for market, strawberries, red raspberries or blackcaps?

MR. A. M. SMITH.—That would depend largely upon your markets, your nearness to market. In some localities strawberries would pay best, and in some localities where you did not have to ship them far, red raspberries, I think, would pay the best. With me the red raspberry has paid better than either of the others.

MR. SCOTT.—I think they are all profitable if taken care of.

QUESTION.—Do you consider gooseberries a profitable crop to raise for market; if so, which variety would you plant the most of, Downing, Houghton, or Smith's improved.

MR. BUCKE.—I have not had much experience with the different varieties. I had a great many Houghton's at one time, and I consider that if I could sell them at 15 cents a quart, as I once did, I could realize about a thousand dollars an acre from them. It is one of the most prolific berries that I know of; but the bushes run out in time, and you have to renew them.

MR. DEMPSEY.—At the present time we find a great deal more profit in growing the Downing than we do in growing either of the other two. The Downing does not produce quite as much fruit as the others do, but it commands nearly double the price in the Montreal market.

QUESTION.—Is the early Canada strawberry a profitable berry for market? How much earlier is it than the Wilson? What is the price of plants?

MR. A. M. SMITH.—The early Canada strawberry some seasons with me has been very profitable. Other seasons it has been a partial failure. In dry seasons, on dry ground, it has succeeded better in our locality than the Wilson, and it is about one week earlier. The only trouble with it is that some seasons it blossoms so early that the spring frosts affect the blossoms. The plants can be got at ten dollars a thousand.

QUESTION.—What is the experience of New York without fences?

MR. WOODWARD.—Several years ago our Legislature passed a law absolving every man from the necessity of keeping up any fences if he would look after his own stock, and the result is that to day we have no stock whatever running in the roads in any part of our State. The only objection to not having road fences is when we are driving stock; but we would all rather turn out and help any person to drive his stock past our places than go back to fences. Without the fences the snow does not drift. I notice one place where a regular grape trellis has taken the place of the fence. I do not think, if you were to put the question to the vote in our State whether we would have road fences again, that you would get one in a township to vote for it. The system of having no fences is universally admired. We mow the roadsides, and there is no stock whatever in the roads. I have no fence on my farm except that a piece of new ground is fenced, and it looks much better to see the crops growing close down to the roadside than it does to see a tumble-down snake fence and the road growing in weeds and grass.

MR. MORTON.—People in this country, farmers especially, start with the impression that our law provides that a fence shall be built; but if I am a farmer I am not obliged to build a fence on the road. That has been decided in a case of *Spear vs. O'Neill*, I

think is the name of the case. It is the law, of course, that a person must maintain his line fences.

QUESTION.—Will some one be kind enough to describe the form and habits of the insect that is the parent of the cabbage maggot, a small worm with a black head? The green caterpillar or cut-worm is not meant.

Mr. BEADLE.—I suppose it is the *anthomyia* that is meant. If so, in the next number of *The Horticulturist* there will be a picture of that very insect.

QUESTION.—What is the cause of the pear blight, and how can it be prevented?

Mr. BEADLE.—I think we will put that off till next year.

QUESTION.—What effect will it have on trees or shrubs planted near Black Walnut trees; would it be injurious to them? Is there any poisonous matter from the leaves of the Walnut which would have any effect on other trees?

Mr. WOODWARD.—The Black Walnut is one of the grossest of feeders, and I do not know of any tree that can be planted next to it that can compete with it in feeding. Besides that, I do not know that it has any injurious effects.

QUESTION.—What is the best means of attaching labels to plates at fruit exhibitions?

Mr. GARFIELD.—In Michigan we have had that thing under advisement for some years. We succeeded in getting a style of plate that pleases us very much, a tin-plate japanned. We can transport four or five thousand of them in small space. But when we got a label on the plate at a state fair somebody who wanted to see exactly what was on that label would reach over, take it off, and then set it back on another plate. We then doubled up some wire and fixed it so it would slip right over the edge of the plate, and then there was a twist at the top of it that we could stick a card in. The twist on the bottom to slip on the plate was not like the twist on the top, so that in the majority of cases people got it wrong side up, and then when the labels were put in they were in all shapes. We were sick of it in one year. For three or four years we were trying to get over that, so at our last exhibition I had a wire so arranged that there is a circle with a standard going right up in the centre of that circle. That circle may be a couple of inches across, and it lies on the plate. You put the apples right on the circle, and the labels stick right up in the centre, and the apples that are on the edge of that circle keep it firm. You can have an entry card and the name of the fruit both on the upright part of this. An important point in connection with this article is that you cannot jerk the label away without pulling the apples off the plate. Another advantage is that there is no doubt to which plate the label belongs, as the label is right in the centre. It was estimated these could be made for a cent apiece when made by the thousand.

Mr. WRIGHT.—I am afraid this thing is not going to work, for this reason: We arrange our plates at the exhibition five rows deep, and the result is that the tickets at the back are hidden from sight. The Montreal Horticultural Society has about five thousand little tin clips for sticking on the plates, with a thing standing up in the centre to place a label in; and the Renfrew Society also has some of them.

Mr. GARFIELD.—The back labels would not be hidden if the fruit was exhibited on low tables.

THE BLACK KNOT.

The next topic for discussion was then taken up, viz., "The Black Knot; its cause, prevention and remedy."

The PRESIDENT.—The Black Knot is caused by a species of fungus, the spores of which are disseminated through the air. I do not know of any way in which you can prevent them being disseminated and attacking your Plum trees in favourable seasons and forming this black knot. The best way to cure this disease is to cut the knot off and throw it in the fire.

Mr. WOODWARD.—When you see the black knot attack the body of the Plum tree, cut it all out with your knife as far as you think it extends, and apply the ordinary spirits of turpentine without putting it on the balance of the tree, and I warrant it will kill it every time.

NEW FRUITS.

The Secretary read the Report of the Committee on new fruits as follows :—

In presenting our report upon new fruits, we recognize the difficulty we labour under in examining and reporting upon the various varieties coming before us, on account of the peculiarity of the fruit season of 1884. It is well known that quality has been lacking pretty generally in all fruits the past season, and hence we consider a test of quality scarcely fair when compared with ordinary years. There are many new varieties of Russian and other fruits that we are glad to see being introduced into our country, which our committee will have the pleasure of reporting upon in future years.

STRAWBERRIES.

Manchester.—This seems so far, quite satisfactory, being a good strong grower, productive on even sandy soils; fruit large, well formed; colour bright scarlet. No doubt, on further trial this will prove a very valuable variety and a great acquisition; flowers pistillate.

Primo.—A fair grower, ordinarily productive; it appears to be a fair amateur berry, but not an acquisition.

James Vick.—One of the latest novelties introduced; plant vigorous, productive; berries a good bright colour; flavour fair; plant perfect flowering.

Bidwell.—Has done fairly wherever heard from. Plants strong grower, forming large stools, fruit large; colour dark crimson. Not a good shipper.

Longfellow.—Plant a good grower if on good strong soil, and well cultivated; berry enormously large, of a bright crimson colour, moderately firm. Will ship very well. A good amateur berry.

Big Bob.—Generally condemned.

Arnold's Pride.—Raised by the late Mr. Arnold, of Paris. This variety seems to be growing in favour every year. Plant one of the most healthy and reliable we have. Berries very large, of a bright crimson colour, moderately firm, stands shipping fairly, flavour fair. Very productive; one of the best we have for a near market.

Early Canada.—Does not succeed east. A few berries will ripen early, or turn red early, but are not ripe until they become a dark dull purple; they are not attractive in the basket, and after the first or second picking they become very small.

Daniel Boone.—Is the next new strawberry over which there is likely to be some excitement. Originated by A. D. Webb of Kentucky. The plant is vigorous and healthy, with indications of great productiveness, being large, roundish or oval, light colour and of good flavour. Pistillate.

Mrs. Garfield.—Originated by same party, lacks vigor in growth of plant, and on this account can not be recommended.

RASPBERRIES.

Hansell.—Is in all sections where heard from very early; a good grower and productive. Plant quite hardy; berry medium, bright red in colour; flavour very good, resembles our wild berries; its chief merit is its earliness. Requires good cultivation.

Shaffer's Colossal.—Valuable for canning purposes. Plant is an enormous grower, apparently hardy; productive; fruit very large, soft, and difficult to handle; colour dull red and not attractive in the basket, flavour fair. Produces a light crop, but ripens scattering on the stems; it cannot be pulled off in handfuls like Mammoth Cluster. It is no doubt one of the best amateur berries.

Lost Ruby.—Has not given the satisfaction that was at first anticipated. Perhaps we have not complied with all its requirements in soil, culture or neighbouring varieties; fruit is large, flavour good.

Reliance.—Its only fault seems to be too dark in colour, and a little too soft.

Cuthbert.—Is growing more and more in favour with fruit growers generally. It is a good grower, so far hardy, and productive. It does not seem to be so particular about

sons as some other varieties, succeeding on nearly all soils that are sufficiently dry to mature the plants before winter. Fruit large, well formed, not quite bright enough, but always attracts the eye of the buyer; berry firm, stands shipping the best of any red raspberry we have tried, flavour good.

BLACKBERRIES.

The following new varieties of blackberries are being introduced, but as they have not been fruited or grown to any extent we are unable to report specifically as to points of excellence or otherwise:—

Early Harvest and *Stone's Hardy*.—As far as seen the fruit of these two varieties, is small.

Wilson, Jr.—A seedling of *Early Wilson*. Likely to partake of the tender character of the parent.

Stayman's Early—Has the peculiarity of rooting from the tip.

Cayner.—A seedling originated in the Township of Thorold, County of Welland. Fruit large. Has only fruited locally as yet, but has proved hardy and productive.

GOOSEBERRIES.

Seedling gooseberry from J. H. Williams, of Goderich. It strongly resembles the Whitesmith, about the size of Smith's Improved. Smooth and free from mildew. A strong upright grower, and heavy bearer; quality equal to the Smith's Improved.

P. C. Dempsey has some seedling gooseberries that are grown from seed of Houghton Seedling, Smith's Improved and Downing, all fertilized with English varieties. All of the Houghton Seedlings are good growers, and produce fruit of a reddish colour, some darker than others; all are larger than the Houghton and a decided improvement. Where Smith's Improved was used for the female the fruit is universally green in colour, the most of them are fully twice as large as that variety; none are inferior to the parent in size or quality. Some of them are spreading, some upright in growth, all productive. Seedlings from Downing are green or yellow. Some are even larger than Whitesmith; most of them are upright in growth, but not nearly as productive as the two former families. All, so far, have been perfectly free from mildew.

Large Golden Prolific.—A native seedling. Large, bell shaped, very productive, free from mildew. As yet it has only been grown locally at Fonthill. In growth it is similar to Downing.

Triumph—Originated near Philadelphia. Grown at Fonthill, where it is hardy and a good grower, has not yet fruited there.

GRAPES.

Brighton—Continues to do well wherever tested. It proves hardy, a good grower, productive, and a reliable early grape for the amateur or market.

Jessica—Is among those that came to full maturity the past season. It has proved a vigorous grower with Mr. Allan, of Goderich, and some others. A delicious grape, but rather small to be of high market value among white competitors.

Worden—Still continues to win its way among the fruit growers. It appears to succeed over nearly the whole length of the Province. Vine hardy, bunch and berry large, colour black, ripens early. It ripened its fruit in many sections of the Province last fall. If left to get over-ripe it will drop from the bunch.

Moore's Early—Is among the very earliest varieties. Vine grows moderately; hardy and productive. Bunch medium; berry large, flavour fair but soon fails. When very ripe it drops from the bunch. Not a favourite for market or amateur.

Lady—Is a fair grower and hardy vine; only moderately productive. Bunch small, berry large, colour green, ripens before the Concord.

Telegraph—Was among the grapes that ripened its fruit last fall. Vine a good grower, hardy and productive. Bunch and berry above medium in size, very close set in the bunch, so much so as to almost crowd each other off.

Virgines.—A first-class grower, with good strong healthy foliage, which may be called leathery. Resists mildew well. Vine productive and hardy. Bunch and berry medium; colour an amber red; flesh juicy; flavour good. Ripened this year with Hartford and may be kept nearly all winter. This we think is one of the best riping grapes for a northern climate for amateur or market.

Niagara.—Still seems to stand at the head of the list of white grapes in the locality where originated, with the greatest number of good points. The vine appears to be hardy, is a very strong grower, with foliage that seems to resist mildew perfectly, and that adheres to the vine until killed by frost, a very valuable point, as the fruit cannot mature without it. Fruit large in bunch and berry. Pulp, melting and juicy, flavour good and sweet. Ripens with the Concord. It has not been ripened in this Province, so far as heard from.

We beg to remark generally that the past season being a peculiarly bad one for grape-growing, we find it difficult to report, with any degree of accuracy, upon a large majority of varieties being introduced, especially upon the late ripening varieties, none of which reached maturity.

PLUMS.

Dougall's Best.—From the grounds of James Dougall, of Windsor. Mr. Dougall has fruited it for about ten years, the tree is a full, strong grower, and bears annually good crops. It ripens a few days before White Magnum Bonum. The fruit, when fully larger than Cox's Golden Drop, is oblong, with a distinct suture, adheres slightly to the stone till fully ripe; colour, a little darker yellow than White Magnum Bonum, and just as it begins to ripen, assumes a beautiful scarlet cheek, which places it for beauty in the front rank among plums. Flavour, judged by the standard of Downing, is very good to best. I have seen nothing that would equal it for attractiveness for market in the plum family, and when I add to this fact of flavour being most delicious, it may truly be recorded as a great acquisition to orchardists.

Seedling plum, from Mr. John Arris, of Belleville, has recently attracted not a small amount of attention among fruit growers for market in that vicinity. Tree, a good spreading grower; foliage of bright green colour, holds on well to the end of the season, a very valuable point. It bears an immense crop every year; the limbs this year were just bending under the weight of fruit. The fruit is above medium in size, form longish oval, with a distinct suture, stem one half an inch long; colour, bright yellow, with a slight blush where exposed to the sun. Flesh melting, sweet and good; free stone; flesh yellow. This plum, on account of its hardiness, productive habit, good growth, and freedom from black knot, will stand in the front rank as one of the best market plums. It is one of the first to ripen, being several days earlier than Green Gage. On account of its many excellent points we beg to recommend that it be named "*Saunders*."

SEEDLING PEACH.

from Thomas Holloway, Clinton, Ont. The tree is from a pit got from England from the garden of the Earl of Fortescue; it is seven years old, and has proved perfectly hardy, and a good bearer. The fruit is large, slightly oblong, flesh yellowish, melting and rich, ripens the end of July.

KIEFFER PEAR.

Perhaps no fruit of recent introduction has had such a diversity of opinion with reference to its merits as this. The conclusion to be drawn from the discussions and reports on it are, that while the quality is not good enough for a dessert fruit the peculiarity of its flavour makes it surpass anything in the pear line for canning purposes, and being one of the best growers, hardy and productive, it can be recommended for general planting.

Seedling pear, grown by Mr. Ritson, of Ontario County. The original tree is about sixty years old, and this is a seedling from that old tree. It has never shown any blight. Fruit is of medium size, pyramidal shaped; colour golden yellow, nearly covered with cinnamon russet; flesh yellow, buttery, with a peculiar aromatic flavour; season December.

APPLÈS.

Salome.—Is attracting some attention in the Western States, and is one of three reported by the Mississippi Valley Horticultural Society as being the best for the West and North-West. It is said to be hardy, good quality, uniform size, a long keeper, and retains its flavour late. It has not been tested here yet, but will soon be introduced, when we will be glad to report upon points of merit or otherwise in the various sections of our province.

Belle de Boskoop.—Of North German origin, is said to be at home in all countries, soils and climates from Russia to the North-Western States, and recommended by the leading horticulturists of the different countries. Prof. Budd, of Iowa, speaks of it as being preferable to the Ben Davis, as it is of better quality, hardier and longer lived than that variety. The Mississippi Horticultural Society also classes it as one of the three best. As it has not been grown in this country, we are unable to report upon it on point of merit.

All of which we respectfully submit.

P. C. DEMPSEY,
Chairman.

Mr. WELD.—I was in conversation the other day with a gentleman who appeared very well posted in fruits, and he was speaking most highly of the Garfield strawberry. I do not know that it has been much introduced into Ontario yet. I notice that in the report it is not so highly spoken of as some other varieties.

Mr. HILBORN.—It has not been grown in this country yet to any extent. I think there are only one or two places where it has been tried, and it has not proved to be a good grower, I believe, except on very strong soils. We only tried it last spring for the first. We put it on new, strong, sandy soil, and it seemed to make very poor growth. There are very few new varieties that have done so poorly as far as making plants is concerned.

INSECT PESTS.

Mr. STARK, Woodstock, handed in the following recipe as a remedy for insect pests : Staves-acre seed powdered, five drachms : hellebore, half an ounce : quassia chips, three and a half ounces : water, seven pints : glycerine, one ounce : boil down to five pints, strain and use with a syringe.

The PRESIDENT.—I would like to ask Mr. Stark whether this insecticide is useful against the aphid or green fly.

Mr. STARK.—I have had no experience with the recipe : but in the course of reading I found that the staves-acre was very destructive to insect life. It is very destructive to insect life on animals, so I thought the combination of staves-acre, hellebore and quassia would be most effective. I have added the glycerine to make it more adhesive.

The PRESIDENT.—The staves-acre seed is very poisonous. It has been long known as destructive to insect life on animals. The various parasites that affect animals have been treated with a decoction of this seed with very great effect.

ORNITHOLOGY.

The Secretary read the Report of the Committee on Ornithology, as follows :—

To the Fruit-Growers' Association of Ontario :

GENTLEMEN, Your Committee on Ornithology beg to report that during the past year they have paid considerable attention to the study of the food of birds, particularly to that of the English sparrow and a few others whose claim to our good-will is supposed to be very small. Concerning the sparrow, no member of the Committee has been able to give a favourable report even on one count, in every instance the harm more than counterbalancing the good. From Belleville the report is that although a few insects have been eaten, whole fields of millet have been cleared, and out of a number of stomachs examined no one contained any insect food.

From the western part of the Province the report is even worse. In a very large number of stomachs examined, the great majority contained simply road picking, and in the minority the highest quantity of insects found in any case was twenty five per cent., and generally only about ten per cent. The cause of the large number of insects in the one instance was that close to the nests there was such a large piece of garden turned up that two hermit thrushes, of all thrushes the greatest lovers of seclusion, were attracted to it and remained several days, proving that a very large number of insects had been exposed. A large number of the stomachs of young birds taken from the nest were also examined, and in these, as with the old birds, most had simply road pickings while a few ran up as high as fifty per cent. of insect food, though generally far less.

On the whole, the quantity of insects destroyed by this bird has been found to be much less than many of its advocates would lead us to suppose.

On the other hand, the damage done by the little pest has been great: and first in importance is the driving away of our native birds.

On three adjoining houses in London there were breeding, five years ago, robins, bluebirds, wrens and swallows—now, the swallows alone are left, the little foreigner having taken possession of all the other nesting places and excluding the rightful owners. Now, the amount of good done by a single pair of bluebirds in a year would far exceed that of half-a-dozen pairs of sparrows, as the bluebirds eat *nothing* but insects, and neither do wrens, the latter in particular taking their food from all the little nooks where insects reside.

It must not be supposed that these three houses are an isolated instance: all over the city the same thing has been noticed, and the scarcity of our native birds has become suddenly conspicuous within four years. As an instance of the damage to fruit trees, may be mentioned the case of a Flemish beauty pear tree which was completely stripped of blossom by the sparrows, even before the blossoms were fully expanded, so that in that year (1882) not a single pear was grown on that tree.

In view of the large amount of damage done by the intruder, your Committee would earnestly recommend that measures be taken immediately, if not for its extermination, at least for its partial destruction, the more severe step of extermination having been already commenced in several states of the adjoining union, where the bird is much better known than here. With regard to the other birds under question, the robin, cat-bird, red headed woodpecker, and cherry bird, your Committee are of opinion that the measures of destruction when necessary, now in force, are sufficient for the present.

The case of the pine grosbeak, who came down from the north last winter and did some serious damage, was not considered important as it is so seldom that this bird visits us that it is impossible for it to do us any lasting injury.

W. E. SAUNDERS,
Chairman.

THE PRESIDENT.—There is one point in this paper which has just been read to which I desire to call special attention, and that is in regard to the investigations as to the food of the young of these birds. We had all supposed until this past year that the young of nearly all small birds, but especially the sparrows, were fed almost exclusively on insect food. But the investigations recorded here show that the bulk of the food of the young sparrow is made up of soft road pickings, and these views we have heretofore held with regard to the value of the sparrow during the nesting season need to be modified.

MR. GOLDIE.—I do not know how it is that in other places the sparrow is condemned so much. They must act differently around Guelph from what they do elsewhere. I was the first one that brought them there, and in all my experience I have never seen the first thing that you could say was an injury in the good that they have done. From early spring till late fall I see them constantly on the lawns around the gardens gathering insects, grasshoppers particularly, and little beetles. I often see a whole flock of them on my lawn picking up these insects. In regard to their driving other birds away, they are a little quarrelsome, but I have counted no less than nine species of birds on my lawn at one time, and probably two or three sparrows among them. I never saw the least in-

clination to fight on their part except among themselves. I think the robin does far more damage in the garden than ever the sparrow does. In regard to the sparrow taking up the pickings from the roads, I do not see that there is any injury done to the public by that. I think it is rather a benefit than otherwise.

The PRESIDENT.—I would like to ask Mr. Goldie if he has ever examined the contents of the stomachs of the birds he refers to.

Mr. GOLDIE.—I never have. They will pick the seeds of different weeds.

The PRESIDENT.—I have often fancied myself that I saw the birds eating various things, and came afterwards to conclude they had been eating something quite different. Unless we are near enough to see the food going down their throats I do not think our observations are as reliable as those of persons who examine the contents of their stomachs, which was what was done in the investigations on which this report is based.

Dr. CROSS.—About ten years ago Mr. Merritt, of our place, brought the sparrow there. We were all highly pleased to see them; but soon complaints came to be made about them that they drove away the other birds. So far as their driving away the other birds is concerned, that has been a great advantage to me; because five years ago the other birds, the robin particularly, took nearly all my cherries and destroyed large quantities of other fruits. I have had them take one hundred pounds of grapes in one day. Robins were so plentiful I was glad to see them go away. Whether the sparrows drove them away or not I do not know, but I have twice the quantity of fruit now that I had before the sparrows came.

Mr. MITCHELL.—I would endorse what both Mr. Goldie and Dr. Cross have said from my experience. I have found that sparrows, where they are not very numerous, have done no damage to the fruit. The robin, on the other hand, as Mr. Goldie says, is a very destructive bird. I have not dissected the robin, but I have seen him on my berries, and I always found that if I left him long there were not many berries left.

Mr. Woodstock, President of the Board of Trade.—I live a little out of the town, and I have always remarked that we could not get any sparrows to come out of the town. I think if we observe we will notice that sparrows live mostly in the towns and cities, and that we do not often find them in the country. I do not think they do the same amount of damage in the town that they would in the country.

Mr. AIKENS.—I remember some years ago it was the great cry of New York that the people could hardly live in their houses on account of the caterpillar; but since the sparrows were brought out the caterpillars have vanished.

The PRESIDENT.—If Mr. Aikens will be kind enough to read the last number of the *Canadian Entomologist* he will find that that relief was only temporary in New York. The writer admits that this smooth measuring worm, which formerly devastated the trees on the streets and in the parks of New York, were destroyed by the sparrows, but he says their place was immediately taken by another worm which is a worse pest than the sparrows hunted out. I must plead guilty to being the first person in our part of the country to introduce the sparrow; but I am perfectly satisfied that if we could get rid of them with twice the trouble that we have taken to introduce them we should be doing a good thing for the future of our country. One gentleman remarked that he thought it was a good thing if the sparrows had driven the other birds away. If the sparrow would content itself with driving the robins and cherry birds away, those which are injurious to our fruit, and allow those which feed on nothing but insects to remain, it would be all right; but he does not content himself with that; he drives away the wrens and blue-birds and other insectivorous birds, and only feeds himself occasionally on insects. We know that in Australia the Government have been obliged to take some extraordinary measures on account of the increase of the sparrow there, and a price has been put upon their heads. It was remarked that if the sparrows did not get numerous they would not amount to much in the way of destructiveness. I would like to know how they are going to be prevented from getting numerous. They increase more rapidly than any bird I know of.

Mr. CROIL.—I must say that they increase very much in the country, because I see a great many around our barns. I see the grain on the floor, and that the sparrows go after it.

Mr. WOODWARD. I believe that sparrows do eat insects sometimes, but as a man in Rochester said last week, they never eat an insect unless they take it away from some other bird.

Mr. GOLDIE. In regard to the question of sparrows driving other birds away, I notice in going round the country that about farm houses and farm yards and places where birds were numerous in former times they are just as scarce now as they are in the towns. I have no doubt that the prevalent custom among boys and others of shooting birds so plentifully as they do is the reason of the scarcity. I am aware that the sparrows will drive the vireo, the blue bird and other birds that build in cavities out of their positions in the towns; but around Guelph I have never seen them touch a bird or a tree or a fruit of any kind, and they are there in hundreds—the trees are covered with them. With regard to their eating insects, I have noticed them come into my mill and eat the meal worms. I do not know of any bird that will not eat worms more or less.

The PRESIDENT. A Finnish Beauty pear tree in my garden was entirely stripped of the blossoms, and I had two or three sparrows knocked down, and upon examining them I found the pear blossoms in their stomachs.

Mr. A. McD. ALLEN. I have seen them myself picking buds, especially of plum trees, when perfectly gorged with grain or other pickings. They seem to take a perfect delight in picking off and dropping down the buds of plum trees and even black currants. I believe the English sparrow has helped to drive off a great many of our other birds. It does not drive off the cherry bird and the robin. I would willingly be one of a number to move to exterminate the English sparrow altogether.

Mr. MORRIS. With regard to their eating caterpillars, in our district there were never so many caterpillars as there were this past season all through the forest and fruit trees of all kinds; and these birds also were more numerous than they have ever been.

Mr. BUCKE. Some years ago we had thousands and thousands of these caterpillars all through the woods about Ottawa, and the next year we had not any at all. And we had not any sparrows in the woods either; so that I do not think we can trace the eating up of all these caterpillars to the sparrows.

The PRESIDENT. You will find the agricultural press everywhere in the neighbourhood of large cities in the United States where these birds are numerous, teeming with letters from farmers complaining about the sparrows.

Mr. ANDERSON. I am told that this year they are fewer in Canada than they were last year, owing to the severity of last winter. My experience of sparrows in the Old Country was that they were an unmitigated pest—that there was no redeeming quality about them.

Mr. GARFIELD. We have a great many more of them in Michigan than we wish to have, and whenever the sparrow question has come up the fruit growers have been unanimous in desiring to get rid of them. No one stands up for them.

SELECTION.

Mr. BUCKE read a paper entitled, "Selection as a means of Improving Plants and their Products," which was as follows:—

The origin of many of our fruits and vegetable products is enveloped in the mystery of the past, whilst others are still traceable to the source from whence they sprung. There is hardly any of them which culture has not so improved that if they were placed side by side with their ancestors, it would be difficult to recognize the offspring as coming from the parent stock.

The primal parent of wheat has been supposed by many to be the *Eglops arabe*, a low growing grass from six to eight inches high, with a few grains or seeds borne upon its tiny stem. This has been contradicted by some, but it is certain it is not far removed, as the pollen of the one freely fecundates the other. Wheat itself or some grain much resembling it, was cultivated in pre-historic times. The grains of wheat have been found in the hands of the Egyptian mummies which have lain embalmed for at least four or five thousand years.

This grain has been often improved by selecting the best ears when ripe, and from

these—the best grains—they are then sown in suitable soil apart from other wheat, and in this way many varieties have been obtained.

Every one interested in perfecting horticultural products should secure a piece of well tilled ground in which to plant chance desirable-looking seedlings which the wealth of nature is constantly producing in every field or garden. Whether these seedlings are of fruit or vegetable plants, the better qualities are usually shown in early life by the thrifty and healthy appearance of the leaves, and a more vigorous growth.

All annuals are apt to degenerate, or recede to the first parent type, and new varieties have to be obtained from time to time, so that individual cultivators who care to go into the raising of superior plants are pretty sure to be compensated for their trouble.

The apple amongst fruits is receiving its full share of attention, perhaps even more now than ever before. This fruit has evidently, through a course of many years, been developed from the crab. The Medlar, so much prized by some, though much neglected on this continent, has been obtained by the high cultivation of the thorn. Nectarines and peaches have also been produced from very inferior parents, the latter has advanced in two different directions; from the stone we get the almond, and from the covering we get the fleshy fruit. The grape and fig are more common in the warmer climates of Asia, but have been improved and acclimated so that they extend over a large area of Europe, and are destined to play a conspicuous part on this continent.

The foreign varieties of the grape have been crossed with those native to the soil, and a new and valuable strain produced. The strawberry is remarkable for the number of its species, and the rapidity of its development during the past sixty years. If any one will compare the mammoth Sharpless with the wild field variety, he will see at once the advance obtained.

Only three kinds were known in France in 1746, where this fruit was early cultivated.

The gooseberry in England has sprung from only one variety common to central and northern Europe, and the differences now found in them is wholly due to culture and selection. We in this country have the English to work with, and also the two wild natives found on high and low lands. In England, in 1629, only eight varieties of the gooseberry were known, now they are counted by hundreds. The most interesting part of the history of the gooseberry grown in Britain is its steady increase in the size of its fruit, and this peculiarity may be confidently counted upon in this country. The wild English gooseberry weighs 5 dwts. About 1786, one hundred years ago, fruit was exhibited, weighing 10 dwts.: in 1817, 26 dwts.: 1825, 31 dwts.: 1830, 32 dwts.: 1844, 35 dwts.: 1845, 36 dwts.: 1852, 37 dwts. 7 grains, or nearly eight times as much as the wild fruit. The increased weight is due to the selection and planting of seeds from the finest berries, and by assisting the plants obtained with mulches and manures.

Though dealing in this paper with the improvement of plants by selection, it is impossible to put aside the surest though more skilful method of the hybridist.

Plants and animals are both organic bodies and it is from the germs of the fecundating organs that new races are obtained. This knowledge has been largely brought to bear on the improvement of our live stock, and however important it may be in that direction, it is not so much so as in the improvement of the herbage which supports them, and the fruits and plants which are beneficial to man: the progress of the vegetable kingdom is of much more importance to the well-being of the human race, because the vegetable products of a country far exceed that of the animal in quantity and money value. A thousand million men are dependent on agriculture, and nine tenths of the fixed capital of all civilized nations is embarked in it, whilst two hundred millions expend their daily toil in the prosecution of those duties which obtain food from the soil.

In multiplying and increasing the products of our field and garden plants we not only get heavier crops but the quality of them is generally improved in a much greater ratio.

Some scientists have conceived the idea that when chemistry shall have attained to its ultimate limits, man will have acquired such a dominion over the principle of life that we will be able to dispense with the laboratory of nature, and manufacture products without her aid, so that it will not be necessary to depend on the vegetable or animal kingdom for the necessities or luxuries of life. Having conquered the waves and winds

by the aid of steam, is man to kick the soil under his feet as a useless thing? Are we progressing toward that time when we shall utterly disregard the genial shower, or the distillation of the tiny particles of dew which refresh and invigorate vegetation? Are we to be alike indifferent to rain, cloud, and sunshine; to light and heat, to laugh at the saps of the husbandman and the tillers of the soil? Is the order of nature to be reversed and the habits of the human race to be changed? I say no a thousand times. In taking from man the pursuit of knowledge, by giving him a knowledge of all things, he would be a most miserable being, unless much changed from his present state. It is difficult to understand what could compensate for the calm and tranquil pleasures of a country life, or the innocent enjoyment of the returning seasons, the health and happiness which are the handmaids of labour performed in the free open air, and under the bright sun of heaven. These pleasures would be replaced under the new order of things, by an imprisoned life in manufactories, and the crowding together of individuals in dense and populous cities. Should such a state of things occur in the future, with them as horticulturists we have nothing to do at present. Let us rather work patiently for the benefit of ourselves, and in that for the benefit of the race, making what progress we can in wresting from nature the secrets she hides from us behind her veil, knowing that if we reap no remunerative advantage in the present we shall at all events add our quota to the store of knowledge, and in doing so

"Will leave behind us,
Footprints on the sands of time."

The PRESIDENT. It would hardly be safe to take the weight of the gooseberries which Mr. Bucke speaks of there as indicating the average character of the crop produced. Those who know the devices that horticulturists resort to in England when they wish to raise gooseberries for exhibition will be aware that they remove all the berries but perhaps half a dozen and then look after them as carefully as a mother will a child—place bottles of water under them, etc.

Mr. GARFIELD. Over in Michigan this matter of selection with the notion of improving plants and seeds has been brought up a good deal the last year in our meetings—and very prominently in discussion with regard to the improvement of wheat—and our people are quite divided on the point as to whether the ordinary selection that we undertake in the improvement of our wheat—by blowing through the fanning mill and selecting the largest seeds—is a selection looking in the direction of improvement. The farmers who have been in the habit of selecting in that way, claim it is the true way; while horticulturists, who are looking for a number of qualities besides size, say it is a wrong way.

Mr. BUCKE.—I do not think a permanent improvement can be effected by selecting seeds in that way. The best way to permanently improve wheat would be to select the plants, or take the best ears, and take some of the largest grains also of the wheat, and plant those. You will then get a true strain.

The PRESIDENT. I think it is generally admitted, that if in planting potatoes you select every year the smallest potatoes to plant, your crop will consist of very small potatoes before very long. Some years ago I experimented by taking some of the most imperfect raspberries I could find—some with two or three grains on them—and I found in every instance the seedlings were of that character; they did not approach in size towards the perfect form of the fruit. I did not grow a great many—perhaps a dozen or two of the seedlings—and I threw them away as soon as I fruited them.

Mr. AIKENS.—The theory that you advance is commonly accepted, I think, now; but I remember seeing not very long since a short article—perhaps in the *Horticulturist*—to the effect that it is a false method for farmers to take the kernels for seed corn from the centre of the cob—that they should select the seeds at the ends of the cob rather than those in the centre.

Mr. DEMPSEY.—If we take a number of seeds, select a single seed that shows marks of improvement and plant it alone—separated a long distance from other seeds of the same kind—we shall perhaps see in the products of the seed a vast improvement, while we find that those of another are quite inferior to it. I saw an instance of this last summer where some of the finest kernels of oats had been selected. I saw heads of oats that

measured two feet and a half in length. I saw such heads, that calculating the number of kernels on one head and then estimating the number of kernels produced from a single head of oats there were two thousand of them. In this way it is possible to improve our vegetables and also our fruits. A number of years ago I observed in my pear orchard where a certain pear was growing near another variety, that a branch of this other variety hung over it, and I noticed that the one pear had attained a size nearly one-third greater than any of the rest. We planted the seeds from this pear, but the blight seemed to attack the seedlings and they were all destroyed. That only went to prove that the pollen of another variety actually did affect the fruit slightly that year. Mr. Rowe, from King, has worked considerably in the selection of potatoes and in grafting them. I was never inclined to believe that it would have any more effect to insert the eye of one potato in the eye of another potato or to grow one potato from the starch of another potato than it would have to fertilize it with Guano: but we are in our infancy in the fertilization and improvement of vegetables and fruits.

Mr. WOODWARD.—I verily believe that by proper selection of seeds, propagation of seeds and cross-breeding of seeds we can double any crop we are now growing. I believe that the farmer who gets his land into the highest state of fertility, can by proper selection double his crops. I have written a few articles for the *Tribune* on this very point. I have not got through with them yet. I wrote some on the influence of improved seeds, the necessity of improved seeds, and then I followed them up with experiments on potatoes. The way in which we save our potato seed is as unphilosophical as it can be. We get it from the small potatoes left from the winter, and these potatoes we get from diseased plants. Here are the Beauty of Hebron, the James Vick and the White Elephant, all sports from the same potato obtained by selection and greatly improved one over the other. Now, we can continue that if we will select properly, and we can continue it in other seeds. The method that Mr. Garfield speaks of selecting seeds for wheat by taking the large seeds, is wrong, because very often these will be from ears that produce but a small number of seeds. The proper way is to select from plants that have a large number of seeds and from the best plants. Last year by means of selection I harvested 517 bushels of Barley from seven acres, seventy-three and six-sevenths bushels an acre: while in another field in which the ordinary seed was used the crop was forty-five bushels to the acre. Mr. Carman, the editor of the *Rural New Yorker* is bound to astonish the American people shortly by the way he is crossing and improving seeds. Among the rest he has got a cross between wheat and rye, it may not be worth anything, but it shows the possibility of hybridizing these cereals.

Mr. DEMPSEY.—I have a cross between the apple and the pear that fruited two years in succession; but it has failed to mature its fruit each year, from the fact that the fruit rots on the tree. We have been in the habit of selecting our potatoes for seed for a number of years back, in consequence of which we have not for several years had any difficulty in disposing of all the potatoes we had—all the surplus potatoes, little or big—for seed. People will come for miles to buy our potatoes in the spring for seed, and we tell them every time the way we do it. We go and dig our potatoes in the fall and select from the best hills the best specimens we get, and these we plant the next year. The result is we get as good a price for our little potatoes as for the big ones.

Mr. WOODWARD.—I will tell you in a very few words the proper way to treat potatoes. I know it from experiment. Go and select the model potatoes of the variety that you wish to propagate, plant those in the best ground you have—a small plot—in the best manner you know how, and take the best care of them possible. When those are in the best state of their growth take a lot of sticks with you made of lath—or anything that will mark them: go through that plot and carefully study the characteristics of those hills of potatoes, select those hills which are in every respect just what you would have them, and mark each of those hills with one of your little sticks. Cultivate them till they are ripe, and then select your seed from those hills. If you are digging your potatoes and find any of them are not all you want, do not take any from that hill: but when you come to a hill which suits you, carefully take those and preserve them till the next year. Take the balance of your seed out of the rest of these for your next year's planting. Repeat that year after year and you will breed a pedigree potato, and after

the second year I would rather have the smallest, most inferior potatoes from your general crop than take the seed out of the best potatoes you have now.

MR. GARRFIELD. It seems to me that Mr. Woodward has struck one of the most important things for us to take hold of as farmers that we can study. It is just the point I made with regard to grain; our farmers select their corn for planting; but if you suggest to them that they adopt the same process in regard to selecting grain they will laugh. They can see the point in regard to corn, but they cannot see it in regard to wheat. In regard to potatoes some men will say small potatoes are just as good as large ones to plant, and I say they are right if they get the potatoes from a good hill. It is just a question of hill—whether a man gets a large potato from a hill in which there were very few potatoes, or gets his potato large or small from a hill in which the potatoes are generally good.

MR. BURNS.—I have increased the crop one third at least in peas, and I think in oats I have almost increased it one-third, just by taking seed grain from light soil and sowing it on heavy clay.

CRANBERRIES.

Mr. A. McD. Allan read the following paper on cranberries:—

Up and down throughout the Province there are hundreds of acres of swampy lands that at present are of little or no practical value to the owners, and yet possibly a large area of this swampy land could be utilized for the purpose of cultivating cranberries. This subject stands prominently among our neglected industries in this Province, probably from the fact that so little is known about the various points of cultivation and care necessary in order to secure a crop at once profitable and regular. Consumers heretofore have been satisfied with the supply reaped yearly from wild beds in far northerly sections, or imported from the neighbouring republic. But now that the demand is rapidly increasing, and will certainly continue to increase, those who have pieces of waste land suitable for cranberry culture may feel interested in a few particulars on the subject.

There appears to be several varieties of this fruit in European countries, and in some of these countries the cranberry stands among the most reliable and valuable crops for home market and export. But although it is largely grown throughout Europe, our American cranberry being larger and of a much better quality finds a ready market across the ocean at much higher prices than the native berry. By the British market reports, I find that the demand in that country for the American cranberry has rapidly increased during the past few years, and prices are steadily on the rise, the supply being short of the demand.

The first requisite is to secure a piece of land that can be flooded during the winter season, but it must be so situated that the water can easily be drawn off in spring when wanted. The plot should be sufficiently underdrained or ditched to avoid holding water stagnant near the surface, as this would induce disease and the breeding of insect enemies.

In preparing the soil care should be taken at the outset to have it free from grass and weeds, although I have seen plots along the sea coast in Maine where, in the course of three or four years, the vines made so close a matting that grass was choked. But like other crops, so in this it will pay to begin with clean cultivation. The plot should be nearly level, so that when flooding there will be an even cover over the whole surface. Lands with peat or muck bottoms are usually considered best. If a regular sod is formed, especially of the coarse strong-rooted swamp grass, it should be removed at a season of the year when the water is low, and in place of this sod a complete cover of fine sand about two inches in depth should be spread over the entire plot. Clay bottom soils should be avoided. Peat or decayed vegetable soil, with a mixture of sand, will do, although if at all possible it is preferable to have a complete top cover of pure sand. The winter is a good time to apply the sand, as there is usually more time for such work at that season, and besides, the expense is generally less for hauling then. If there is danger of grass or weed roots in the soil, the sand should be laid four inches deep over the surface, otherwise half that quantity will be sufficient.

It is not necessary to obtain rooted plants for setting out, as the cranberry grows freely from cuttings. Some growers make small cuttings, broadcast them over the plot and roll or press them into the soil, while others advocate planting in rows. If the soil is clean, broadcasting the cuttings is probably best, as the vines cover the surface sooner and thus prevent the growth of grass and weeds. When they are planted in rows there is usually too much space left for cultivation the first two years, and this space allows the scorching sun to beat so directly upon the young vines that they are often weakened. Under favourable circumstances, if plants are placed two or even three feet apart they will completely cover the ground in about two years.

The spring is the best time to set the plants or cuttings.

Usually the plot should be flooded about the first of December, and the water drawn off gradually the following spring from the first to the middle of May. After the plants or cuttings are set the water should be kept near the surface and gradually drawn off as they strike and grow.

If a stream runs through the marsh so much the better, as in dry weather in mid-summer, when there is any appearance of insect enemies, the flood-gates can be closed and the plot thoroughly saturated for a couple of days so as to destroy these enemies, while at the same time supplying needed moisture to the plants.

Sulphate of iron is an excellent top dressing for cranberries but it must be used sparingly. If dissolved in water a liberal sprinkling will be sufficient.

There are several varieties grown, but I think the favourites are the Cherry and the Bugle, although the former is reported as being tender in parts of the State of Maine. As a rule, a full crop need not be expected until the fourth year, although a small crop is often reaped the second year from planting.

The yield varies from one to two hundred bushels per acre. Large growers reap the crop with rakes specially adapted for the purpose, but hand-picking is preferable, as the berries are not injured, and hence keep much better in transit and bring a higher figure in the market.

As soon as the crop is picked and barrelled, it should be sent to market if the grower wants to make the best value out of his crop year after year, as by keeping, the shrinkage will more than counterbalance any possible advantage in awaiting a rise in the market.

MISTAKES OF FRUIT GROWERS.

Mr. A. M. Smith read the following paper on the above subject ;—

Some one has said that mankind learn more from their failures or mistakes than they do from their successes. If this be true, and I have no reason to doubt it, it accounts for the great number of wise men among fruit growers, for no other class of business men make more mistakes than they do, and as fruit growing is becoming one of the great industries of the age, and so many are going into the business, it has occurred to me that I might benefit my fellow workers and advance or accelerate the wisdom and intelligence of the country, by pointing out some of these mistakes for the benefit of those who are just beginning the business, so they can make them at once, and thus more quickly acquire the knowledge which so many of us have been years in obtaining. The list I have to offer is not a complete one by any means and I have no doubt but energetic fruit growers will discover others equally valuable as promoters of wisdom—and if I continue in the business for a few years more I feel quite confident I shall myself be able to add to it.

For convenience I have classified mistakes as follows. Mistakes in planting—mistakes in cultivating and pruning—mistakes in marketing—and miscellaneous mistakes.

Mistakes in Planting.—It is a mistake to plant trees till you get your ground ready or to plant in soil not adapted to their growth: or that has not been properly enriched and thoroughly underdrained—trees will not thrive with wet feet. It is a mistake to plant in certain quarters of the moon—trees do better planted in the earth.

It is a mistake to plant too many varieties—or to plant all of one variety—or to plant a variety because some tree agent advises you to: or to plant every variety offered you before it has been thoroughly tested in your locality, unless you have the means to

conduct an experimental fruit farm. It is a mistake to plant in post holes and think that trees will grow without any further care or cultivation. It is a mistake to plant at all unless you know what varieties you want and how to take care of them when planted.

Mistakes in Cultivation.—It is a mistake to think that when trees are once planted they will take care of themselves. It is a mistake to set young trees on to grass before they are weaned from the nursery. It is a mistake to think they don't want just as good cultivation as corn or any other crop to succeed well. It is a mistake to try and raise crops year after year from an orchard without returning anything to the soil: trees want feeding as well as your pigs or cattle to produce growth or fruit. It is a mistake to trim by horse or cattle power, you are apt to overdo the job. It is a mistake not to trim and shape your trees when young and thus avoid the necessity of removing large branches when the trees are large, and thus mutilate and injure them. It is a mistake to let too much fruit grow on young trees or vines. It is a mistake not to thin out heavy crops on any trees.

Mistakes in Marketing. It is a mistake to market your fruits in flour or meal bags, when you can get clean ones. It is a mistake that you don't use the clean ones for oats or wheat and put your fruit in good clean baskets or barrels. It is a mistake to try to put a quart of berries into a pint and a half basket, or a half bushel of peaches or pears into a twelve quart basket—they shrink in getting them out.—It is a mistake to put all the small samples in the bottom of the basket, most people take them out before they use them, besides the large ones on top have a crushing effect, if not upon them, upon your honesty as a fruit-grower. It is a mistake to send soft fruit to a distant market. It is a mistake to send fruit to a commission man whose honesty you know nothing about. It is a mistake to expect prompt returns from every commission man you send to. It is a mistake to send off fruits to be sold on commission if you can get a fair price near home.

Miscellaneous Mistakes.—It is a mistake to think that nursery men never make mistakes, or that they are not willing to rectify them when they can. It is a mistake to think they are responsible for the death of all the trees that die before coming to maturity, or for all the tricks of tree agents.—It is a mistake to think they don't want to sell all their surplus stock, and that tree agents don't often buy it and without their knowledge, re-label it just what their orders call for and send it out, and when it bears, nurserymen get the cursing.—It is a mistake to think all tree agents are rascals. It was a mistake that you did not clean all the rubbish away from your trees last fall and bank them up with earth to protect them.—And it is the greatest mistake of all if you are not members of the Fruit-Growers Association, and taking the *Canadian Horticulturist* and contributing to its columns, and thus advancing an interest which is helping to make Canada one of the most healthy, beautiful and prosperous countries upon this fair earth.

At this stage the Convention adjourned for dinner.

QUINCE CULTURE.

The proceedings of the afternoon session were opened by the Secretary reading the following paper on Quince Culture, by Mr. Linus Woolverton, of Grimsby:—

Among the fruit reports from various sections of Ontario there is a remarkable absence of any reference to the Quince. The markets of our principal cities show a very scanty supply of the same fruit, and indeed in some of them it is almost unknown. These facts prove to us that the Quince is very much neglected as a market fruit in Canada.

Why is this? Not because it is a new fruit, for we find it highly commended eighteen hundred years ago, when the pear was held in very low estimation, and so poor in quality that it was scarcely edible unless boiled or baked.

Neither can it be because they are a useless fruit, for physicians say they are useful for alleviating affections of the throat, while as an article of diet the Quince deserves to hold a much more conspicuous place than it now occupies. Though unpalatable when not cooked, they may be served in a variety of ways. In the *Horticulturist*, page 116, we find canned Quinces placed side by side with the peach in importance for family use, and spoken of as an article of diet of which few will ever tire. Quince jelly is unsur-

passed for beauty and richness; Quince marmalade is highly esteemed; Quince preserves are most delicious; roasted Quinces are excellent, and Quinces constitute an excellent flavouring used with pears or apples.

Neither can we attribute the scarcity of Quince trees in Canada to the unsaleability of the fruit, for we find an increasing demand for it at prices quite as remunerative as those received for the pear. Possibly it is too tender for many parts of Ontario, but it is certainly hardier than the peach, and the latter is grown in many places in great abundance. Certainly in the Niagara district the Quince thrives well, though plantations of it are seldom met with. We have ourselves several hundred trees in our orchard on the lake shore at Grimsby, and find them not only hardy and thrifty, but bearing good crops almost annually.

The best variety for general use is the Orange, also called the Apple Quince. It is hardy, very productive, and possesses a fine quality, a beautiful golden colour, and an excellent flavour. The Champion Quince contests the first place with the Orange. It originated in Connecticut in 1865, and the fruit is claimed to be larger and to ripen earlier than that of the orange.* Ræ's Seedling, though larger than the Orange, is not so productive. Mr. Downing says the Portugal is the finest in quality and best for baking or marmalade, its flesh turning a fine purple or deep crimson when cooked. J. C. Loudon, in his *Horticulturist*, speaks of the fruit as more juicy and less harsh than that of other varieties, and therefore the Portugal Quince is the most valuable; but unfortunately for the avarice of Canadian fruit growers, it is so shy a bearer as to be unprofitable. The Pear-shaped Quince ripens later by nearly a fortnight than the Orange, and thus prolongs the season of shipping, but the quality is so much inferior, and the skin so dull in colour; that it cannot be recommended; besides, the Orange Quince can be gathered in such a way as to sufficiently prolong the season. Last season, 1883, we made the last shipment of Orange Quinces on the 19th October, which is surely late enough to meet the requirements of any grower; at the same time, they are sufficiently early, for we shipped the first on the 25th September, and were told by our commission agent, "there is no inquiry for Quinces yet."

There are several ornamental varieties of the Quince, and among them the *Cydonia Japonica*, or "Burning Bush," is quite a favourite about Grimsby. In the *Horticulturist* for 1878, page 53, this variety is recommended for a garden hedge—certainly it is very ornamental in the early summer, with its scarlet flowers in rich profusion appearing before the foliage is developed, and in the autumn with its prettily coloured fruit.

The Quince prefers a damp soil, if drained of standing water, but neglect of this precaution in Canada will result in destruction of the roots in a severe winter. It will thrive, however, on a great variety of soils, the writer having tried it on sandy loam, light sand, clay loam and heavy clay, upon all of which it is more or less successful, though, perhaps, the clay loam, enriched by a black deposit from surface water, has proved most suitable. Some recommend ten feet as the proper distance for planting Quinces, but in good rich soil twelve or fifteen feet apart is not too much.

An article by W. J. Fowler, quoted in the *Horticulturist*, 1882, page 281, gives some good hints about Quince growing. He commends low, mucky soil; advises a heavy mulch of leaves, with some stable manure, every fall; also, the application of about a quart of salt annually to each tree to keep the soil cool and moist, and render other fertilizers more available.

I agree with him that cultivation of the soil may be discarded if a mulch is applied, and that this treatment, while it may seem careless, is at the same time most judicious, for the roots are very near to the surface, and are easily mangled by ploughing or spading. I have tried both plans, the oldest Quince orchard on our fruit farm having been planted by my father about twenty-five years ago, at a distance of eight or ten feet apart, cultivation therefore having been soon discontinued from necessity. I have had the grass and weeds cut and piled about the trees, and upon the rubbish scattered both coal and wood ashes. The result has been eminently satisfactory, both with respect to growth and productiveness.

* NOTE.—It does not ripen as early; in truth it ripens too late for this climate.—Editor.

Quinces may be gathered earlier upon a well chosen site, as to packing, the season is critical. No fruit needs more careful handling, soon after maturity becomes a dark red in a short time. For shipping to a distant market in considerable quantities, a heavy box package is best, so commonly for the ordinary apple barrel. The ends should be filled with white paper, and the fruit placed in very carefully, calyx and pedicel against the lower corner of the box, and is with the apple. The top end of the barrel should be gently pressed to its place with a lever or screw press, but less heavily than in the case of the apple, because the texture of the Quince is more brittle and less elastic, consequently every bruise will result in a serious blemish. For a near market, and in smaller quantities, no package can surpass the now very popular twelve quart basket. Whichever package is used it will usually be found best to make two classes, and not to ship the small mis-shapen, or poorly coloured specimens in the same package with the choice fruit. If, however, no selection is made, a fair show of best and worst should be made in order that dealers may know exactly what they are handling, and buyers may know exactly what they are buying. We sometimes jokingly say, "there is cheating in all trades except ours," and I wish we could say it truthfully of fruit growers, but I fear we can stand investigation in this respect as poorly as our friend the shoemaker or our neighbour the butcher.

I hope that this paper upon Quince Culture may increase the interest in this ancient fruit, and that instead of being consigned to unmerited oblivion, it may henceforth occupy a more prominent place on the tables of rich and poor, both in the town and in the country.

MR. BEADLE.—I have fruited the Champion Quince, and it is not so early, but decidedly later than the Orange.

COMMITTEE ON NEW SEEDLINGS.

The President named the following gentlemen as the Committee on New Seedling Fruits, viz., Mr. Dempsey, Chairman, Messrs Allen, Wright, Gilchrist, and Linus Woolverton.

AMERICAN POMOLOGICAL SOCIETY.

The President submitted the following as his report of the Delegate appointed by this Association to attend the meeting of the American Pomological Society at Philadelphia.

REPORT OF THE DELEGATE APPOINTED TO ATTEND THE MEETING OF THE AMERICAN POMOLOGICAL SOCIETY.

The biennial meeting of the American Pomological Society was held this year in connection with that of the Pennsylvania Horticultural Society, Philadelphia being selected as the most suitable place for the joint gathering; the meeting was held on the 12th, 13th and 14th of September in the beautiful hall of the Pennsylvania Horticultural Society.

It was expected that the venerable President of the Society, Col. Wilder, of Boston, would have been present, but illness prevented him; this was a great disappointment to many who had looked forward with pleasure to the prospect of hearing his silver-toned voice once more, and listening to his words of counsel, always so full of meaning. Although unavoidably absent in body and within a few days of his eighty-fifth year, he sent an address to be read at the meeting, full of sympathy, in which he feelingly reviews the recent deaths in the ranks of horticulturists. Brief biographical sketches were given of Thos. James, James Vick, Wm. Schley, Arthur Bryant, Edward Pearce, Henry Hooker, Chas. Arnold, Joseph Johnson, B. Transon, Dr. Warder, and Henry Ellwanger, all of whom have passed away since the last meeting of the society. Referring to the loss of our own late associate, Chas. Arnold, he spoke of him in the kindest words, as "a careful observer, an eminently practical man, speaking of what he knew rather than of what he conjectured," and after briefly revising his work in cross fertilization and other departments, said, "he was a man of great enthusiasm, of good judgment, and his loss is greatly to be deplored by us." This aged patriarch among fruit growers thus closed this "In Memoriam" part of his address: "These and other friends have gone before us to that better land

where we trust they are now partaking of fruits from the tree of life that perish not with their use. Thus one after another of our associates is passing away, but this is the order of nature.

"Fruits have their time to ripen and fall;
Leaves have their time to wither and dry;
Man has his time to flourish and fade,
All must be cut by Time's ruthless blade;
But though the fruits of earth may all fall,
And none be left to tell the sad tale,
Still there's a land of promise on high,
Where fruits never fall, men never die."

Among other interesting topics discussed in this address was one which might well be considered by this Association, viz., the propriety of adopting some system by which the use of indecorous ostentations or otherwise inappropriate names for fruits may be avoided, and the nomenclature thus simplified. The importance of constantly producing new varieties from seed, either fertilized naturally or crossed with other sorts, was also urged with much force as the most promising of all fields of horticultural industry.

Col. Wilder was re-elected President of the Society, Mr. P. J. Berckmans, of Augusta, Georgia, 1st Vice-President, and Prof. W. J. Beal, of Lansing, Michigan, Secretary.

A large proportion of the time appropriated to the sessions was occupied in discussions on the fruit lists, the merits and demerits of the newer varieties being thoroughly canvassed. Some interesting reports and papers were presented, among the latter, one by Prof. Riley, of Washington, on recent advances in Horticultural Entomology, was listened to with much interest. In the course of his remarks the speaker referred to recent progress in the discovery of suitable remedies for insect pests, special reference being made to kerosene emulsion and pyrethrum powder, he also exhibited several forms of apparatus devised for the proper distribution of insecticides.

The exhibition of fruits and flowers under the auspices of the Pennsylvania Horticultural Society was very fine. Mr. E. E. Satterthwaite, of Pennsylvania, exhibited a very fine collection of pears embracing fifty varieties, for which he received a first premium. Excellent collections were also shown by the President, Hon. Marshal P. Wilder, of Boston; Ellwanger & Barry, of Rochester; William Parry, of N. J., and others. One of the finest collections of apples and grapes was exhibited by the Minnesota State Horticultural Society; among the apples in this collection were a number of the newer hardy Russian varieties which were examined by many with a great deal of interest. J. H. Ricketts, of Newburgh, N. Y., had a fine exhibit of his seedling grapes, besides which, there was a good display of Duchess, Prentiss, and Niagara. Mr. Parry received a special premium for his exhibit of the Kieffler Pear. He showed this variety not only in large quantities in dishes on the tables, but the pillars in the fruit room were tastefully ornamented with branches cut from the trees, displaying in a marked manner the productiveness of this variety, the ages of the trees from which these branches were taken was also given, which added much to the instructiveness of the exhibit.

The lower story of the Horticultural Hall was devoted to fruits, while the upper part was gorgeously decorated with ornamental plants and flowers, many of them exhibiting marvellous beauty. There were large collections of Palms, Orchids, Nepenthes, Calatums, Marantas, Dracenas, Coleus, Begonias, Crotons, Ferns, Lycopodiums, Selaginellas, and a host of other plants, including many rare novelties. Among the most attractive portion in this department was an exhibit of a collection of rare water plants by Mr. C. D. Stuart, evant, including the celebrated Victoria Regia, the leaf of which was as large as a good sized round table and the flower when expanded fully six inches across.

The display of cut flowers is said to have been the finest ever seen on this continent and the magnitude of the floral designs far surpassed anything of the sort ever seen before by your Delegate.

The afternoon of the closing day was devoted to sight seeing, when the visiting members were driven in carriages to the public buildings, Academy of Fine Arts, Girard College and through portions of Fairmount Park to Horticultural Hall, where some considerable time was spent in examining the magnificent collection of plants, shrubs, and trees accumulated within and about that building.

In the evening of the same day the members of the Pennsylvania Horticultural Society entertained the Delegates by a palace reception and banquet in the magnificent assembly room of the Union League. Among the invited guests were many distinguished citizens of Philadelphia. The evening was a most brilliant and enjoyable one. During the evening our Delegate, who was assisted by one of honor on the platform as the only representative from Her Majesty's Dominion, had an opportunity of saying a few words to the audience on the progress of Horticulture in Canada and the good work being done by our Fruit Grower's Association, in response to a toast embodying these sentiments. About midnight the assembly dispersed, each visitor carrying with him to his home pleasant recollections of the hospitality of the good citizens of Philadelphia.

QUINCE CULTURE.

The Convention then returned to a consideration of the topic of Quince culture.

MR. BEADLE.—The paper by Mr. Woolverton that I read is correct in this, that there are comparatively few Quinces grown in this Province, and I can hardly understand why in the part of the country in which the Peach grows, and in which the Quince might be grown successfully, so few Quinces are grown. In our St. Catharines market it commands a good price—pays well for growing it. I would call the attention of fruit growers to this fruit, which has been neglected, and in which I believe there is money if you will only inform yourselves as to the soil, mode of culture, and marketing of the crop. It is a fruit that is valuable in itself and is valuable for flavoring purposes. The cores and the peelings of it make beautiful jelly. You can put all the pulp up in cans or preserve it for use in the winter, and you can make jelly out of the cores and skins.

MR. A. M. SMITH.—I have fruited the Champion Quince, and I think Mr. Woolverton is a little wrong with regard to the time of its ripening; it is a later Quince. It is a much longer keeper, too. I have kept them up to midwinter in good condition. Two years ago I was buying apples through this county, and particularly in Norwich, and I was surprised to find there some beautiful Quinces, and in a great many different sections, too. The Quince seemed to flourish admirably there, and I wondered why it was not cultivated to a larger extent. The people did not seem to cultivate it for market, but simply for their own use and that of their neighbours, and a good many of them did not seem to know the value of it. I posted up a man who was working for me, and he bought some and shipped them to Toronto at quite a gain, I believe.

A MEMBER.—Do you know what they sold for in Toronto?

MR. WOOLVERTON.—Seventy-five cents to a dollar.

MR. GOTTE.—Will Mr. Smith tell us the conditions under which those Quinces that he speaks of were grown? We find great difficulty in growing Quinces in our section.

MR. SMITH.—The principal conditions were that they were growing in the corners of farmers' fences, where they had no attention at all. They were the Orange Quince mostly.

MR. WOODWARD.—We grow some Quince trees and occasionally some Quinces. We do not consider them very reliable as croppers, but I believe that has been owing more to the way in which they have been managed than to any other cause. We grow mostly the Orange Quince. There are a few of Red Mammoth grown. I think the great mistake that we have made in Quince culture has been in ploughing, so as to keep the ground level. That keeps the roots near the surface. In my own orchard the trees used to drop their leaves badly. Since then I have done better by cultivating towards them and mulching them with grass. The owner of one of the best Quince orchards I know of mulches his trees every year. He puts corn cobs down about them. The Quince has not been appreciated as it ought to be as a fruit. For my eating—and I find others think the same—there is nothing more refreshing than Quince. For eating there is no better fruit.

MR. A. McD. ALLEN.—The Quince has not been cultivated in our district much. It is generally, as Mr. Smith says, found in fence corners or other places where it receives little or no attention. I have found it particularly where it is thoroughly cultivated on a good soil, red well, and with salt liberally applied on the tops all. I find it as necessary to apply salt in that way to the Quince as to apply it to a bed of Asparagus. I have

grown in the brine and salt from the burrens. I think about a quart to a tree. Roe's seedling is a very excellent variety. It is the same as Rose's Marquis. The Champion I like a very much better one and a good keeper. I am satisfied if people knew the excellencies of the Quince it would be grown more.

Mr. WOODWARD.—I am of opinion there must be got rid of the Quince trees without cultivation than with it. The simplest mulch, referred to in that paper, which I have tried is the coal ashes. In one plantation of Quinces where there is a great deal of grass, where they were not cultivated at all—indeed they were not cultivated from the first; they were planted in a piece of sod; they were mulched with coal ashes, and the result was very satisfactory. They have borne well. We have another orchard which we have had planted for a long while in which we have had the same experience.

Mr. MORRIS.—I do not know of any Quinces being planted out in orchards where they are regularly cultivated like other fruit. I have noticed Quince trees in places where they were apparently neglected that would be covered with fruit every year, and I have noticed them in gardens well cultivated where they would be blighted every year.

ROSES.

Mr. WELLINGTON submitted the following as the report of the Committee on Roses:

There are so many valuable works published in which the culture and care of Roses are given in minute detail, that it seems almost out of place, in a necessarily short report, to go further than to recommend the best varieties for general cultivation in this Province. Still we often have heard the remark made that enough practical information is not given in our reports, and to meet the want of all as fully as possible your Committee have decided to briefly give a few ideas on soil, culture, etc.

The first point is to secure strong, healthy plants, and we believe that it pays in the end to buy two-year plants of most varieties, there being less risk in transplanting, and there is generally plenty of good bloom the first season. Just here let us strongly recommend all planters to set out their Roses in beds.

Do not isolate single plants in your garden, but mass in beds. The effect is brilliant and imposing, and whether it be the miniature bed of half a dozen plants or the grand display of 500 Roses massed, it is the only true way to grow them to best display their beauty. A circular bed is the best when convenient, which should be raised in the centre, sloping gradually to the edge. A bed twelve-feet in diameter will hold 150 H. P. Roses. You can either plant all bright colours, or beginning at the centre with the darker kinds, gradually shade until the outer edge is pure white.

Some prefer planting all of one variety in a bed, but this is entirely a matter of taste, the main thing being plenty of Roses.

SOIL AND POSITION.

Choose the best place you have in your garden, where you can offer protection by means of hedge or fence from bleak and sweeping winds. You can clothe ugly fences by climbing roses and make them a thing of beauty as well as usefulness. A warm sunny position is also requisite. Try and allow them the morning sun freely, and if possible wholly or partially shade from the fierce rays of the afternoon.

A certain amount of sunlight is, however, essential. Many plant Roses under the shadow of over-hanging buildings, or close to large deep-rooted trees, and then wonder why the plants are always covered with mildew and why they do not blossom freely.

Roses do well in any ordinary garden soil that is free from standing water and well drained. When there is much clay there should be added wood and coal ashes, lime, burnt earth, etc., to make it friable; when sandy or too light add clay and leaf-mould until you have sufficient body. All soil must be thoroughly manured and well worked.

The best manure is one-third each of cow dung, rotted hops and turfy loam. Horse dung is better for heavy soils than light, and cow manure is not as good for soils inclined to be wet. All animal manure can be used, however, for Roses, but should always be thoroughly composted.

By dry weather watering with soft liquid manure will always be a great benefit. Never allow new manure to come in contact with the roots. If used it all spread on top of the soil as a mulch. This is good for the culture.

PLANTING.

Roses grown out of pots or nurseries should be planted while in dormant condition, either in fall or spring. Plants propagated from cuttings on their own roots should be set as early as possible in the spring. If grafted plants are set, they should be set so that the junction of the bud or graft will be two inches beneath the surface of the soil. In this way there is less liability of suckers, and there is a chance for the plant to send forth roots from the cutting place.

One important feature almost wholly neglected is pruning. Much can be learned by practical experience, but as a rule there is not enough pruning done. The tendency is to set out plants just as they arrive from the nursery, and this is often the chief cause of the young plant failing. The sap has too many buds to nourish, and there is a weak growth, the buds finally becoming dead. The general rule is to cut away all but one or two buds, and if the weather is very hot shade the plant for a few days until it gets established. Be sure and cut away all bruised or broken roots. They will then send out fine fibrous roots of great value to the plant.

The late H. B. Ellwanger, in his excellent book on the Rose, lays down the following excellent general rule on pruning:—"Plants of delicate habit and weak growth require severe pruning; those that are vigorous in growth should have the shoots only moderately shortened, but the branches well thinned out." This refers mainly to established plants. For young transplants prune to two or three buds. With many of the H. P. varieties a summer pruning should be given as soon as the June blossoming is over, as it helps the formation of flower-buds later in the season.

INSECT ENEMIES OF THE ROSE.

We cannot, on this subject, do better than to quote the excellent remarks of H. B. Ellwanger on the chief enemies of the Rose:—

"*The Aphis* (*Aphis Roseæ*) or Green Fly, is well known by all who have grown roses. It is a small green louse, about one-eighth inch in length when fully grown, usually wingless. Their bodies are oval and soft; they secrete a sweet fluid, of which ants are very fond. The presence of ants on roses is good evidence, did we require it, that the Aphides are at work. They are very prolific in breeding; Reaumur estimates that one individual in five generations may become the progenitor of nearly six thousand millions of descendants. Through their slender beaks they suck the juice of the plant, always working at the tender shoots, and in a short time will, if unmolested, destroy the vigour or vitality of any rose they infest. Much the best destructive agent to use against them is tobacco smoke; when this cannot be applied, a liquid solution, made from tobacco stems or leaves, or from quassia, will be found an efficient method of working their destruction. Take four ounces of quassia chips, or tobacco stems, and boil them about ten minutes in a gallon of soft water; strain off the chips, and add four ounces of soft soap, which should be dissolved in it as it cools, stirring well before using. It may be applied by dipping a whisk broom in the mixture and sprinkling all shoots that are infested. Whale oil soap, dissolved in water, is also a useful remedy."

Mildew.—This is a fungus disease often caused by great and sudden atmospheric changes, and by a long continuance of damp, cloudy weather. The best proved remedies are sulphur and soft soap. As soon as the disease appears, the moment the disease makes its appearance; the plants should be sprinkled with water, so that the substance applied will adhere, or else let it be put on early in the morning while the dew is yet on the plants. Some localities are much more subject to visitations of this disease than others, and in such places care should be taken not to plant varieties that are known to be specially liable to mildew. As it is contagious, spreading from one plant to another, we should advise the destruction of such sorts as belong to the Giant of Battles type; better it is to

sacrifice a few kinds than that all should be disfigured with this annoying fungus. Generally mildew makes its appearance in the autumn, when the nights grow cool; at this season it works but little harm, and may be disregarded, since the plants have made their growth and the wood is nearly, or quite, ripe.

The Red Spider.—Is a most destructive little insect, which generally commits its ravages in the greenhouse; they only make their appearance when favoured with a hot, dry atmosphere.

These insects are very small, scarcely distinguishable by the eye, if isolated; they are of a dark reddish-brown colour, found on the under sides of the leaves. They cause the foliage to assume a yellow tinge, and will soon make sickly the plant they infest. A few applications of whale oil soap dissolved in warm soft water will often destroy them; this can be applied with a syringe, taking care to throw the water upward to reach the leaves affected late in the afternoon, and then washed off with pure water the following morning. This insect does not attack plants that are syringed with water daily, and all plants grown under glass, not in flower, should be sprayed regularly. When a house that has been infested with Red Spider can be emptied of the plants, it is well to burn sulphur on charcoal embers; the fumes from the sulphur are fatal to nearly all insect life, and a house can by this means be soon freed from this insect; as burning sulphur is also destructive to plant life, this process can only be used in emptied houses, unless only a slight quantity be used at a time.

Rose Hopper, or Thrip (*Tettigonia Rosea* of Harris). This is perhaps the most troublesome pest with which the rose is afflicted in the open air. It is a small, yellowish-white insect, about three-twentieths of an inch long, with transparent wings. Like the Red Spider, they prey upon the leaves, working on the under side; they seem to go in swarms and are very destructive to the plant, soon causing the foliage to assume a sickly yellow appearance. As they jump and fly from one place to another, their destruction is less easy to accomplish than is the case with other enemies. We have found syringing the plants with pure water, so as to wet the lower side of the leaves, and then dusting on white hellebore, will destroy or disperse them. Another remedy, nearly or quite as good, is a solution of whale oil soap, which must also be applied so as to reach the leaves from beneath.

Rose Caterpillar, or Leaf Miner. There are several kinds of caterpillars belonging to the order called *Lepidoptera* which prey upon the rose. They are the young of moths or butterflies, varying from one half inch to three quarters of an inch in length. Some of these are green and yellow, others brown. They all envelop themselves in the leaves or burrow in the flower buds. Powdered hellebore sprinkled over the plants will prevent in a large measure their moving over the plants, but the only method of killing them which is really effectual is by crushing between finger and thumb.

This crushing process may not be considered an agreeable pastime, but it must be done, and fastidious people can either delegate the work to others or go armed, not *capa pio*, but with gloved hands, and perform the work themselves. It is time to look out for these marauders when the buds are formed and begin to show signs of plumpness.

Rose Chafer, or Rose Bug. This (the *Melolontha subspino*, of Fabricius) is a brown beetle, a little less than one half inch in length, which comes from the ground about the second week in June, or when the Damask Rose is in blossom.

Many localities are never troubled with this pest; where it does appear it is never alone, but in swarms: the insects attack the flowers in preference to the foliage, and seem to be more fond of white and light coloured flowers than of those which are dark. In a very short time they entirely disfigure and greatly injure the plant which they attack. An application of Paris green dusted over the plants is very destructive to them. The application of tobacco water, whale oil soap, etc., is useless, for in order to have any effect upon the bugs the solution would have to be made so strong that it would work injury to the plants.

Rose Slug. These slugs are the larva of a saw fly, called by Harris *Selandria Rosa*, an insect about the size of a common house fly, which comes out of the ground during May and June. The female flies puncture the leaves in different places, depositing their eggs in each incision made. These eggs hatch in 12 or 15 days after they are

aid. The eggs of the pest are deposited upon the under portion of the leaves, and soon make great numbers upon the foliage of the plant. They are about one-half inch long when fully grown, of a green colour, and feed upon the upper portion of the foliage. The best remedies are powdered white hellebore or a solution of whale oil soap.

White Grubs.—These grubs are the young of the rose root-boring vermin known as May bugs. The females are thus denoted by Hare.

"During the month of May they come forth from the ground, whence they have received the name of May beetles or May beetles. They pass the greater part of the day upon trees, clinging to the under sides of the leaves in a state of repose. As soon as evening approaches they begin to buzz about among the branches and continue on the wing till towards midnight. In their droning flight they move very irregularly, darting hither and thither with an uncertain aim, hitting against objects in their way with a force that often causes them to fall to the ground. They frequently enter houses in the night, apparently attracted as well as dazzled and bewildered by the lights. After the sexes have paired the males perish, and the females enter the earth to the depth of six inches or more, making their way by means of the strong teeth which arm the forelegs; here they deposit their eggs. . . . From the eggs are hatched, in the space of fourteen days, little whitish grubs, each provided with six legs near the head, and a mouth furnished with strong jaws. When in a state of rest these grubs usually curl themselves in the shape of a crescent." These annoying pests live in the earth for three years, feeding on the roots of roses and other plants, and give no sign of their presence till the plant on which they feed commences to wither or turn sickly.

So soon as evidence is given of their ravages the plant should at once be dug around and search made for the grub, that his destruction may save other plants from death. The grub is more fond of the roots of strawberries than of any other food, and if these berries are grown alongside of roses a careful lookout must be had.

It is a fortunate thing that the grub does not confine himself to a rose diet, else would the culture of our favourite flower often be accompanied with more plague than pleasure or profit.

VARIETIES.

There are so many truly excellent varieties, and the list is constantly increasing, that it is difficult to condense the list sufficiently or to know which varieties to leave out. We give below what we believe to be the best ones, very standpoint, and while many of the varieties omitted would be considered as worthy a place in any collection your committee have felt it desirable to condense the list as near as possible to meet the needs of the amateur.

Climbing Roses for Conservatories.

Celine Forester.—Pale yellow, deepening towards the centre; the hardiest of the tea-scented section.

Lamarque.—White, with sulphur centre; flowers in clusters; generally seven leaflets. A magnificent climbing rose under glass.

Solfaterre.—Raised from Lamarque, sulphur yellow, large, double or full, slightly fragrant. An excellent climbing rose and valuable as a stock on which to bud Teas.

Gloire de Dijon.—The true combination of rose, salmon and yellow; flowers very large, very full, good globular form, the outer petals inclined to fade. A very useful rose, probably the hardiest of the Teas.

Marie Bertin.—A seedling of Gloire de Dijon, flowers pure yellow, globular; the most free flowering of all the seedlings from Gloire de Dijon. Flower stems very long and stout; lustrous, handsome foliage. A grand yellow rose, only surpassed by Marechal Niel, and so far as healthy habit and continuous production exceeds that splendid sort.

MONTHLY ROSES.

Agrippina.—Introduced to England from China in 1789. Rich crimson, specially valued for its fine buds. A useful sort for bedding out and for forcing. The best of the class.

Herbert.—Bright rose, medium or small size, double, constantly in flower, bushy habit.

Catherine Mermot.—Flesh colour, with the same silvery lustr seen in *La France*; large, full, well formed; not very productive, yet not a shy bloomer, very beautiful in the bud; when the flowers expand they exhale a delightful perfume. The finest of all the Teas.

Isabella Sprunt.—A sport from *Safrano*, sulphur yellow, very beautiful in the bud. Well known as one of the most useful kinds.

Bon Silene.—Hardy, deep salmon rose, illumined with carmine, medium size, semi-double, highly scented, very free flowering. This is only desirable in the bud state, for many years it has been a leading kind for forcing, the English florists have not yet discovered its value.

Mad. Bravy.—Creamy-white, large, full, of very symmetrical form and great fragrance. One of the most beautiful and useful in its class.

Marie Guillot.—White, faintly tinged with yellow, large, full, of splendid form. One of the most beautiful Teas; would that it were fragrant.

Monsieur Furtado.—Yellow, medium or small size, well formed, very full; an exquisite sort, of good habit, but nearly so much grown as is *Isabella*.

Marie Van Houtte.—Pale yellow, the edges of petals often lined with rose, well formed; of good habit, and in every respect a most charming sort. The finest of all Teas for out-door culture.

Odorata.—Of Chinese origin, brought to Europe in 1810. Of a very strong blush, large flowers, somewhat loose, but good in the bud; one of the most fragrant. The larger number of the Teas are descendants of this sort.

Perle des Jardins.—Canary-yellow, large, or very large, full, well-formed, stiff stems, very free; the leaflets are five to seven in number, deeply serrated, very dark and glaucous. A superb sort for forcing, and fine also in open air.

Marechal Niel.—Supposed to be a seedling from *Isabella Gray*. Deep yellow, very large, very full, globular form, delightfully fragrant; the finest of all yellow roses; it is of delicate constitution, and requires very careful treatment to produce satisfactory results. It is only adapted for culture under glass, and even then the inexperienced would do better not to attempt its culture.

La France.—From seed of a Tea-rose. Silvery-rose, changing to pink, very large, full, globular; a most constant bloomer, and the sweetest of all roses. If the buds remain firm by pressing gently the point and blowing into the centre, the flowers will almost invariably expand. An invaluable sort.

Madame Lambard.—Rosy-salmon, deepening towards the centre; the colour is variable, sometimes being a rosy-flesh; the flowers are large, very full, and good. This variety is not so refined as many others, but is of excellent habit, free blooming qualities, and is to be considered one of our most useful Teas.

Mosses.

Etna.—Bright crimson, very double, superb.

Crested Moss.—Discovered on the wall of a convent near Fribourg, and sent out by Vibert, 1827. Deep pink coloured buds, surrounded with a mossy fringe and crest, free from mildew. A fragrant, very beautiful rose.

Countess of Murinais.—White tinged with flesh.

Captain John Ingram.—Purple-crimson colour, not permanent; of a small foliage in five leaflets.

Glory of Mosses.—Pale rose, very large, full, flat form; not attractive in the bud, the foliage is very large.

Malme Edward Ory.—Carmine-red, of medium size, full, one of the best in the class.

Perpetual White.—White, tinged with flesh, flowers in clusters, medium size, semi-double, or double, coarse form, but little mossed.

Princess Adelaide.—Pale rose, in bud full, not very messy, but good in bud and flower; dark foliage, which is the variegated.

Salut Mesdames.—Light rose, medium size, but rather messy; good buds, very free. The best in the class.

William Lobb.—Light crimson, purple, large and double.

HYBRID DU ROY, AND HYBRID DE MONTEAU ROSES.

Alfred Colomb, we have found to endure our very changeable climate remarkably well, and do not hesitate to recommend it to those who are far from being experts in rose growing, as a most useful sort. The flowers are large, well formed and finely fragrant, and sufficiently brilliant to please those who prefer showy roses.

Amélie de France is a very early and dark, a very desirable garden rose. Its shade of carmine when freshly open is most exquisitely beautiful, while the size and fullness are such as to satisfy the most exacting. Besides this, it is fragrant.

Alba Carnea.—White with delicate pink shading, moderate size; free bloomer; very beautiful.

Baron de Bonstetten.—Pleases well. It is one of the Prince Camille de Rohan type, and very much resembles it in form and colour, being rich velvety maroon, but has seemed to be somewhat more full. This is one of the new roses.

Baroness Rothschild is a great favourite. We are strongly inclined to place it in the front rank, nay, to say it is the grandest rose of its colour. Is there anything in roses more delicately beautiful than its soft pink shade? Do any excel it in symmetry of form? Yet, alas! it is without fragrance.

Baronne Prevost is a very old rose that has stood by us so long and faithfully when others have failed, that we must speak well of its hardiness, floriferousness, pleasing rose colour and full habit. We would like its form better if were not so flat. It is quite fragrant and this may atone for some lack of elegance in the form of the flower.

Beauty of Waltham.—When we first received this from W. Paul, who sent it out some twenty years ago, and sniffed the fragrance of its rosy crimson flowers, we thought it the best of its class, and it is a fine rose, well worthy of a place in a select collection.

Baronne de Maynard.—White, edge of petals often tinged with pink; small size, compact form.

Comtesse de Chabillant.—Although in cultivation for a quarter of a century, has lost nothing by long acquaintance in our esteem. Its delicate satin-pink colour, its full double form, and modest size, combined with abundant fragrance, unite to make a lovely flower. There is a grace and fascination about it to us that we find it difficult to express.

Charles Margottin belongs to that fiery red class which might well have been used by the Spanish Matadors to dangle before the eyes of their wild bulls to spur them on to madness. We like its large, well-formed flowers, and the steadfastness with which it retains its colour under our burning sun.

Climbing Jules Margottin.—Flowers are the same as in the old sort, except being a little smaller, and for this reason it is finer in the bud state. The best of all the climbing sports; highly commended as a useful pillar rose.

Comtesse de Senneval.—Said to be raised from LaReine, but it shows more of the Jules Margottin characteristic. Silvery pink, of the medium, rich, the shaped globular flower, of medium size, slightly fragrant; wood, light-green, foliage darker, thorns red, seven leaflets. One of the most distinct; of great beauty when grown under glass.

Caroline de Sansal.—Flesh colour, deepening towards the centre; large, full flowers, flat form, often indented; subject to mildew; very hardy, beautiful when in perfection; generally it is of better quality in September than in June.

Charlotte des Alpes.—White, tinged with blush, size medium to large, semi-compact form; the wood is long-jointed. A very desirable white rose.

Henriette de Meillon.—Raised from LaReine. Deep rose, tinged with blue, very large, full, of fine globular form; fragrant, free blooming. The wood and foliage are light green, erect habit, thorns not numerous, wood long jointed, the foliage somewhat crumpled. A

very distinct, like soft, budding in June and July when other kinds are past their prime, and also in the autumn.

General Washington.—Raised from Triomphe de l'Exposition. Red, shaded with crimson, large, very full, double form, a profuse bloomer, and when in perfection, a very fine sort.

General Jacquemont.—A probable seedling from the old Hybrid China Gloire des Rosomanes. Brilliant crimson, not full, but large and extremely effective, fragrant and a excellent hardy variety.

General Hume.—Belongs to the old Portland group. Deep rose, tinged with violet, medium size, full-quartered shape, fragrant, very hardy, a profuse bloomer. The colour rather variable.

Jules Margottin.—Probably from LaReine, carmine rose, large, full, somewhat flat, slight fragrance, five to seven leaflets, foliage light-green and somewhat crimped, wood armed with dark-red thorns, free-flowering and hardy.

LaReine.—Glossy rose, large, full semi-globular form, somewhat fragrant; the foliage slightly crimped, five to seven leaflets. A very hardy, useful rose, though no longer the queen.

LaTherese.—Said to be from this LaReine. Crimson-maroon, medium size, sometimes large, full, semi-globular form: large foliage, fewer thorns than most other dark roses, highly perfumed. This is a tender sort, but it is very free-blooming, and decidedly the finest crimson yet sent out.

Mad Victor Verdier has given us good satisfaction. Its bright crimson colour, shaded with carmine, is very effective; the size is large, form excellent, and it is very fragrant.

Maria Camille is a gem, like Alfred Corneb in colour, but of a brighter shade. The flowers are quite large, beautifully formed and deliciously fragrant, and they are produced in great profusion.

Marshall Poirer.—Crimson, one of the richest dark shaded roses: cupped, good size, and a free bloomer; very hardy.

Mabel Morris.—A sport from Baroness Rothschild. Flesh white, changing to pure-white; in the autumn it is sometimes tinged with pink; semi-double cup-shaped flowers. In all, save substance of petals and colour, this variety is identical with the parent, though not so full as we could like.

Paul Neyron is simply immense, a Jumbo among roses. It is slightly fragrant and very double. The plant is a free bloomer and vigorous grower. It suffers a good deal from our winters, so much, that we regard it as somewhat tender.

Pierre Notting deserves kind treatment and a place in every garden if for no other reason than its abundant fragrance. In addition, however, it is a lovely dark rose, very deep crimson with a shading of violet, large and of a fine globular form.

Prince Camille de Rohan has an indescribable rich, soft velvety lustre to its deep shade of crimson that has gained for it a lasting place in our regard. It is, perhaps, not quite as hardy as we could wish, but its colour is so truly splendid that we cannot do without the Prince.

Victor Verdier.—Bright rose with carmine centre, a very fresh shade but not permanent, semi-globular form, of good size, not fragrant; very free, the wood is all but smooth, the foliage lustrous. This variety is doubtless of Bourbon origin; it is a beautiful rose, but with its entire progeny is more tender than any other types in the class.

Yvonne (Yvonne) is another very deep crimson rose that makes a grand display with its large richly-colored flowers. When its roses are just open and yet studded with the dew-drops of the morning it is beautiful indeed, but the hot midday sun fairly scorches its petals, which seem to absorb the heat to their own destruction.

OUT-DOOR CRAWLING ROSES.

Baltimore Belle.—Pale blush, changing to white, very full and double.

Queen of Prairies.—Believed to be from Queen of Prairies with Madame Laffay. Rosy-red, occasionally blotched with white; large, flat flowers, slightly fragrant.

Queen of the Pearls.—Rays red, flowers very white stripes, medium or large size, double; foliage large, five leaflets, quite deeply serrated.

Dr. Williams' Scotch Scab.—Thrusts, flag and striped, with sunny shades, small or medium size.

SUMMER ROSES.

Amie.—Five large, sunny purple, globular and double.

Madame's Yellow.—Medium size, golden yellow, semi-double, generally has nine leaflets, a finer bloom than *Persian Yellow*. This is believed to be a hybrid between the common Austrian and a Scotch rose.

Madame's Green.—Four leaflets, with orange, long or very large, full globular; foliage and wood light green; numerous dark spines, a fragrant excellent variety.

Madame's White.—White large, semi-double, very fragrant; sometimes comes with green tints, but very beautiful when in perfection. A difficult sort to grow from cuttings.

Madame Plantier.—Pure white, above medium size, full, flat form, seven leaflets, foliage rather small; one of the best white roses for hedges and for massing. Early in the season the flowers are somewhat in great abundance.

Persian Yellow.—Bright yellow, small, nearly full, well formed; small foliage, faintly serrated like the Sweet Briar, seven leaflets, the wood is chocolate brown in colour, armed with numerous brown thorns; it is the finest of all hardy yellow roses. It must not be heavily pruned. It is best pruned in winter, and then one plant may be pruned one this year in the usual way, and the other the next, so that crops of flowers may be had.

All of which is respectfully submitted.

W. E. WELLINGTON, Chairman.

D. W. BEADLE.

Wm. SANDERS.

The PRESIDENT.—There is one rose, which I would call a cosmopolitan rose, without a reference to which, it seems to me, any report on roses would be incomplete. I mean the old Cabbage Rose. I think the Cabbage Rose, which is cultivated five hundred times more than any other rose in the world, should hardly be entirely overlooked in a report on roses. It is the rose from which we derive all the attar of Roses of Commerce.

Mr. MITCHELL.—I am perhaps too young a member of the Association to make suggestions, but I think that for general use these reports ought not to be quite so voluminous. People like myself, who only want half a dozen roses, hardly know what to choose out of so large a list. We would like to know of just a few roses which have succeeded best in our own country. I consider that the first Hybrid Perpetual in the list that was read, is perhaps the finest of all, the Alfred Colomb. The Louis Van Houtte is also a very good one. I have noticed a fine new rose, perhaps exceeding any of these; that is, the Marshall P. Wilder. If there is any new rose that is ever going to rival or excel any of our old roses, it will be this Marshall P. Wilder. It greatly resembles Alfred Colomb. I saw it last season on the grounds of Ellwanger and Barry.

The PRESIDENT.—Is that one of young Mr. Ellwanger's new roses?

Mr. MITCHELL.—Yes.

Mr. WELLINGTON.—That report was not got up for any one individual, we are too apt to look on these things from a personal point of view, the common complaint has been that you do not in your Fruit Growers Association give information enough for the Amateur that you talk as botanists or scientists. Now, in preparing that report I had a special object in view, and that was to reach the class of people who do not obtain rose works, but who like to grow roses, or would do so if they could be taught how to grow them. Therefore I take up the subject mainly of education; and that is a point that it is very necessary should be understood, because, as our worthy Secretary has remarked, to plant roses where the mid day sun can get at them is almost useless. We must have a shady position. We want to have the morning sun, but we must guard them against the noon sun. I touched on that point as briefly as possible. In regard to the number of roses that are mentioned, we must remember that everybody is not content with half a dozen roses.

Out of the fifteen hundred or more roses, a great proportion of which are desirable, we have mentioned only about thirty varieties. To have any satisfaction with roses, we must mass them, and in order to do that successfully, we should not be content with a few dozen, unless our circumstances are such as to confine us to that few. Of course it is desirable to reach the majority of the people, and it is for that very reason that that report is prepared in that way.

Mr. GRAY.—I quite agree with my friend from Inniskip, that when we have these long papers before us treating of so many things, we cannot get out of them the kind we want. Of course there are a great many of these roses that a great many gentlemen know the value of. My friend from Zorra with the thing in the table, that was one of the best roses. It grows better with me than any rose I have in my garden. It lasts longer, and I like it better than any rose I have.

Mr. WELLINGTON.—If Mr. Gray would that paper be so prepared that it may come down as near as possible to the practical.

Mr. WRIGHT.—The criticisms, I think, have been well taken, especially that which our worthy President has made, namely, that we should add to that list the Cabbage Rose. It was suggested also that the Marshall P. Wilder should have been added. It appears therefore, that the report has erred in that the list has not been made long enough. For a long time I was the only subscriber to the *Horticulturist* in the neighbourhood of the County of Renfrew, and I was the only one that received the annual report. Consequently, all the women in that section came to me to borrow it, to get the list of roses, of which there has been some complaint made, in order that they might study the whole thing and pick out the ones they wanted, and then they would have done with the Association on account of the length of the list of roses in the report. And I think when they get this report they will hardly consider the list long enough.

Mr. WELLINGTON.—The reason we did not put Marshall P. Wilder in the report was that we did not think it had been extensively enough tested yet to warrant us in doing so. I saw it on the grounds of Ellwanger and Barry. I have a very good opinion of it, but not having seen it tested outside of their grounds I thought it hardly desirable to place it in the report just yet.

Mr. BEADLE.—I want to emphasize what Mr. Wellington has said. That Marshall P. Wilder has not been disseminated through the country. No one knows anything about it but Ellwanger and Barry. This report was intended to recommend roses adapted to cultivation in Canada, and to be based on what we knew about their cultivation in Canada.

Mr. DEMPSEY.—I was surprised at the shortness of the list. That list of roses would not satisfy me at all even if multiplied by three. But if any one wants a short list which will give satisfaction just let him take the favourites of my wife and myself. If all the roses were to be taken from us but one I would choose La France, and my wife would stick to the old Cabbage Rose from the fact that she has a system of preparing from the petals of those flowers a flavouring which she uses for a great many purposes. La France I prize on account of its fragrance and beauty. From the time it blooms in the spring until the frost kills it we can go at any time and pick roses from it.

THE BLACK SCAB ON THE APPLE.

The next topic discussed was "The Black Scab on the Apple; its Cause; can it be Prevented?"

Mr. CROIL.—I tried sulphur for it, and I would have great faith in that yet; but I did not apply it in the right manner. You remember that a couple of years ago it was suggested in a paper that sulphur should be put in an orifice in the tree. I adopted that plan. Mr. Saunders told me then, and I have found out I was right, that it would not work. He told me that sulphur was not soluble in the sap of a tree. I would suggest syringing with different substances. This disease has been a loss to me on my small orchard of certainly a thousand dollars a year, and I would be very happy to pay any gentleman who would tell me what to do for it.

The PRESIDENT.—These low forms of vegetable life to which this particular fungus belongs are perhaps easier destroyed by the gas of sulphur than by any other

There is also a possibility of its getting up in the air, and it is exposed to the same danger as the gas which has been already mentioned. The same gas is given off from a man when the water is coming in close to him, &c. The same thing is true of the milk, &c. in a dairy. I cannot think of any better way of applying it than by putting the sulphur in some of the common phosphates, not dissolvable in water, so that the water will not get a chance to dissolve it. As the water evaporates a thin coating of sulphur will be left on the food, when the water comes in, thus it will give off this gas. I do not say that this would be a remedy, but it might be tried.

Mr. BRADLEY: We feel as you are just to be a good remedy for nailcare on paints in the house.

The Phosphorus. — Sulphur, when mixed with iron, gives off, when exposed to the air, another gas, a compound of sulphur and hydrogen, which seems to have a similar influence on these lower forms of life, and this sulphate of iron may give off some gas unknown to chemists.

Mr. MORTON. I am of course saying about myself, but a friend of mine, a physician, claims he has found a remedy for the black scab. That is hyposulphite of soda. This is a cure for the pear and the apple, the scab I forget the name of it, which physicians say is a low form of vegetable growth. From the use of it in that disease he was led to make an application of it for black scab on the apple. I have not seen him since he began to make the experiment.

The PRESIDENT.—The hyposulphite is a cheap article, and I suppose a pound of it would be enough for a barrel of water. So that it would not be an expensive experiment.

MR. CROIL.—It is only two years since our friend Mr. Arnold said he had shipped a hundred barrels of Fameuse that had not a spot on them. I do not think there is a gentleman in this room who can say so to-day. I think the disease is on the increase.

Mr. BUCKE.—The Fameuse received in Ottawa from the west this year were very much spotted, while those from Montreal were comparatively free from spots.

Mr. DEMPSEY. "Some years ago when we were obliged to resort to glass to get grapes to eat on account of not having varieties that would succeed in the open air, we used to take sulphur and place it in a pot and throw a stone of quicklime in and boil it up a little, and then we used to strain the liquor and place it in vessels. This was for the prevention of mildew. We used to put a little of this in the water that we syringed our vines with under glass, and so long as we used it we never saw any mildew on the vines. This would certainly be a very cheap remedy. It would not cost much to try it. It occurs to me that it might act as a preventive of this black spot. It adheres to the fruit and to the foliage. It always had a good effect."

MR. WELLINGTON.—I would make this suggestion, that a committee of gentlemen who are willing to conduct a series of experiments during the coming season be appointed in this matter, and that they report minutely at the next winter meeting. There is no doubt that this spot is growing more and more. The island of Montreal is the home of the Fameuse, but the spot is affecting that apple there more and more each year, and on account of it the planters there are not setting out any more Fameuse.

Pursuant to Mr. Wellington's suggestion the following gentlemen volunteered to experiment, viz., Messrs. Croit, Hickling, Woolverton, Dempsey, Gott, Martin of Woodstock, A. Mc. D. Allen, and Cornell of Collingwood.

The PRESIDENT.—We have had some valuable information given us by our friend Mr. Woodward and by others that satisfies most of us, I think, that the use of Paris green for the codlin moth is a valuable remedy, and I would suggest that this committee experiment with it by syringing their trees with it mixed with water in the manner referred to.

Mr. WOOLVERTON. -- We have one quince tree that—as indeed were all the others—was affected very much by this scab, and it being near the house there has been quite a large amount of wood ashes applied to it. And this last year, when probably the spot was more prevalent than usual, the fruit on this tree was really very nice, very clear. This last year the spot extended to the Greening and the Northren Spy which I had never known it to do before.

Mr. A. Mc D. Smith. For three or four years until this year I did not purchase a

barrel of the Fameuse, but this year we shipped very near a hundred barrels of very fine ones; the Fameuse this year in our portion of the country were very fine, hardly a spot to be seen; but for two or three years previously they were hardly worth picking off the ground.

Mr. A. M. SMITH. —I am surprised to hear this, because a short distance west of Mr. Allen we could not get a barrel that was fit to ship.

The PRESIDENT. —I think this discussion shows that this disease is mainly due to atmospheric influence, and that these spores are always in the atmosphere ready to attack the apple-tree when the conditions are favourable.

PEARS.

The next question to be considered was "Why are not pears more largely grown, and which are the best varieties for the market?"

Mr. MITCHELL. —I have a few trees planted, but I find that I have to plant nearly half as many every year to replace those I lose.

Mr. BEADLE. —Is it the blight that kills them?

Mr. MITCHELL. —No, but some spot will come in the stem. I do not know whether it is the borer or what it is. In what little I have had to do with pears I have been very unsuccessful.

Mr. HATCH. —I have had a little experience in pears, but not much success; nearly two-thirds are gone from blight.

Mr. PARKER. —I have been trying to cultivate pears in my garden. I had several varieties of very healthy trees a few years ago. I thought I was going to have some very excellent pears, and the first and second crops were very fine. They were large, well formed, and well coloured —so fine that I was able to take the prize at our exhibition. But two years ago the Flemish Beauties were attacked by the blight, all but one, and that was a tree that had been very much stunted in its growth: did not fruit until it got to be a very large tree; I thought it ought to have fruited two or three years before it did. It fruited a year ago, and it fruited this last year, but the fruit was all spotted, and it would crack down nearly to the centre of the core after it got about ripe. The Bartlett's have done very well, as also have the Belle Lucratives. I have some of those that are very prolific, and that have not been attacked by the blight or spotted in any way. But so far as the Flemish Beauties are concerned, I have had to cut down three or four of my trees, and of others I have had to cut the best bearing portions down.

Mr. HATCH. —The blight has been very much worse this last year than in previous years.

Mr. STRACHAN. —When I was in Rochester during the summer I picked up a copy of the *Fruit Recorder*, in which there was a letter from a person who signed himself "A. K.," from Pelee Island. He mentioned that he had had no blight in his pear trees for quite a number of years: that he applied a strong solution of copperas: that all his neighbours around him who did the same thing had their trees perfectly free of blight also, and that those who had not applied that remedy had had their trees attacked as usual. I saw somewhere, some years ago, a recommendation to take a strong solution of that and apply it to the tree with a mixture of soft soap and cow-dung, and in doing that I succeeded perfectly with a few trees. I had four trees attacked in 1875, which I have still, but which were very much injured by blight in the branch and also in the trunk. I pared off the thick bark of the trunk and tied them up in that way, and it was wonderful how the fresh bark grew in beneath the old bark. I did not take off the whole of the bark, but left the inner rind, although it was withered, and the bark grew anew, and the trees are very good ones still. I took up twelve trees before I sufficiently considered the way of preventing the disease spreading. Since then my trees have not been badly attacked until this year. This year a Belle Lucrative was attacked. It is not dead yet, and I may save it, but a large portion of it is gone. The solution of copperas is to be applied to the tree between the first of May and the end of May, or even later.

The PRESIDENT. —The term "copperas" in that case, I suppose, would mean sulphate of iron. The term "copperas" is also applied to sulphate of zinc.

Mr. STRACHAN. — By means of the same remedy another gentleman of this town saved a tree which was very much affected. He applied the cow dung to it and tied it round with rags, and the tree is now healthy.

Mr. SAWFILLE. — I saw the tree that Mr. Strachan refers to after it was experimented on, and last year it bore a bushel of very fine fruit. It is quite evident to me it is getting more difficult every year to grow pears. Some years ago, when I had a farm, I had no difficulty in growing very fine ones. A short time ago I visited that farm and found not even a stump of those trees left; they are all gone. The blight, I find, has attacked the Louise Bonne De Jersey and the Flemish Beauty.

Mr. MORRIS. — I believe there is more ignorance shown, and greater mistakes made in the growing of pears than in the growing of any other kind of fruit. Farmers, and people living in towns as well, will generally buy from two to six pear trees. They pay a long price for them, and of course they must plant them in their choicest piece of ground. In those locations the ground is so full of rich vegetable matter that the tendency is for the pear to make a second growth. Perhaps the trees will make an early growth that ripens up, and then they will put on a second growth, and I find that where they make this second growth they invariably blight. Instead of using vegetable manure I would use lime and unleached wood ashes. I have noticed that where pear trees are planted on high ground along the edge of ravines, where there is natural drainage, they are nearly always healthy. Another mistake that is made is the selection of varieties. Of course we all know that some varieties have a great tendency to blight.

The PRESIDENT. — When I commenced pear growing on a tolerably large scale, I planted out two thousand trees. I selected one hundred and fifty varieties with a view to finding some that were free from blight. I had that theory that Mr. Morris refers to, strong on the brain then; but I got cured of it after a while. I grew trees free from blight for five or six years, and then they would take it. I would then replace them with other trees, with the same result. I then tried Mr. Morris's other plan of growing the trees on inferior ground, and that succeeded better. I took the poorest piece of ground I could find on the farm and planted the same varieties out in single rows, putting six of a kind together, I had twenty-five rows. I think twenty-five varieties that I thought the most promising—and I must say that during the time since they were planted, six or eight years now, there has been much greater freedom from blight than there was when they were on ground that was strong and rich. Another curious experience I had. You all know that the Glout Moreau is usually regarded as one of the most liable to blight of any we have. On my grounds it was one of the last to blight and the least prone to blight. Dr. Reeder is a variety that I find remarkably free from blight. On the Asylum grounds in London, opposite my farm, there were ten trees of it planted fourteen years ago, and I believe there are nine of them there to-day, while the most of these other varieties planted have perished.

Mr. MORRIS. — I would pronounce the Duchesse, Beurre D'Anjou and Seckel, three of the freest from blight. Another mistake is in planting trees with a stem like an apple tree. Of course, buyers must have them that way; but the best way and the proper way to grow pear trees is without any stump at all, or letting them branch right from the ground, not more than a foot or a foot and a half any way. Then if any branches are struck with blight, you have other branches coming up, and you can allow them to grow in their place. I have seen pear trees struck with blight down to within a foot or two of the ground. The blight was arrested there, and from that they would branch out, and afterwards make good, healthy trees.

Mr. BEADLE. — I wish Mr. Woodward would tell us about an orchard of Beurre D'Anjou that Mr. Moody planted.

Mr. WOODWARD. — It blighted, I believe. He got one or two very good crops, and I think he let it overbear.

Mr. GOTT. — I am of the opinion that pear growing in the western counties, in our low, heavy, clayey soils, will succeed better than in some other soils. I know that on some of our farms that are of very heavy clayey soil, that scarcely any other kinds of fruit will grow on, plums and pears grow very well, and the fruit is beautiful—no sign of blight at all. As for the varieties that may be properly grown there, I would not class

now according to whether they blight or not, because that question does not seriously affect us here—the Flemish Beauty is no doubt the pear of all pears there, and more people will plant that variety than any other on the list, because almost everybody knows it. The Bartlett is also well known, and a very profitable pear. The Louise Bonne de Jersey is a great bearer, and gives great satisfaction where the trees have arrived at any kind of maturity. The Winter Nelis and the Lawrence are very successfully grown, too.

Mr. DENTON.—About twelve years ago I planted in my garden about five varieties of pears, the Seckel, Flemish Beauty, Bartlett, White Doyenne, and Louise Bonne de Jersey. They came into bearing, and they bore profusely, and the fruit was magnificent. Then came the blight. The Flemish Beauty was struck first, and I pared it away until we got it all out. The Seckel followed suit, and then the White Doyenne. I received a premium on the fruit from another Flemish Beauty, in, I think, the very same year—perhaps the year before. That tree has grown, and is now bearing—somewhat like the other one, but doing well. That has not been blighted yet. The Bartletts were touched. They recovered. This summer we had a splendid crop of them. The Louise Bonne de Jersey has never been touched, but is still in good bearing condition. So that I lost three out of the five varieties. I thought it was owing to their heavy bearing that they were the subjects of blight, they being too feeble to stand against it.

The PRESIDENT.—Sometimes it is attributed to feebleness and sometimes to too much strength, but every theory that is set up is knocked down by the next person who speaks.

Mr. A. M. SMITH.—We grow some varieties that have withstood the blight. Some twenty-five or thirty years ago, in company with Mr. Woodverton of Grimsby, we planted a specimen pear orchard of some fifty varieties, and among them the Gloat Moreau. It has been mentioned, I think, that that was about the first one to blight. I visited that orchard this fall, and I think there was just four of those original trees that had escaped, and I think those four are, the Brown Beurre, Tyson, Seckel, and—I forget the other now; I think it was a Buffam.

Mr. GOLDIE.—I would like to give the opinion of a gentleman who was formerly a prominent pear grower. That was the late President of this Association, the Rev. Mr. Burnett. He used to grow pears very luxuriantly, and had a great many varieties. One time I was visiting him I found a great many of them were blighted and cut out, and on my asking him what was the reason of it, what do you think he said? He said it was all on account of his second marriage—that while he lived like a bachelor all the sweepings from the garden, and sods from the walks, and ashes from the house were scattered all over his pear garden, along with old boots and shoes and other things of that kind that would act as a mulching, and it was mulched all over a foot or eighteen inches deep; but after he took another wife to himself she, like all the ladies, wished to have everything neat about the place, and she set the man to rake and clean up the whole surface of the ground. After that was done, he said, the blight came.

Mr. SCOTT. Mr. Woodward says he has five thousand pear trees and none of them were ever blighted.

Mr. WOODWARD.—I cannot remember when I lost one from blight. Some of the finest trees I have have been blighted, but if you watch them carefully it does not do them any hurt. In fact it seems to do the Bartletts good if you cut the blight out. If I were going to plant to-morrow 1,000 standard pear trees I would plant 999 Bartletts, and I would put a Bartlett in the other space and take care of it. I put bone dust and salt and ashes on my orchard, and I have put on copperas. I have used in one year, I think, about six or eight or ten barrels of copperas. I have also thrown on lots of coal cinders and scattered them broadcast in the orchard. I do not know that any of these prevents the blight; I just put on what I think is good for the ground. Put a pear tree on the best ground that was ever made and take pears off it, and unless you put something back either the scab or blight or something else will come to destroy the trees. I cultivate my trees, and I manure them every year, and the Bartlett orchard I crop. I have an old Duchesse orchard, which was an old orchard when I got the place, and it has done me well; it has borne remarkably well. Some of those old trees have grown out of shape, and they lie everywhere on the ground. I have picked as many as a barrel from a Dwarf Duchesse tree, and still I do not pretend to have any specific. Last spring I was

down in New Jersey, and a friend of mine there gave me a lot of scions of the Kieffer pear. I put them in my satchel, and they were spoiling my clothes, so I took them out, and when I came home they were as dry as sticks. However, my nephew set them, and I do not think one of them missed growing; they grew remarkably. Last spring I think nearly all of them blossomed, and I think he said one of them set seven nice pears. The Kieffer is just as nice as it is possible to make a pear in colour and shape. It is not blight proof, however. I do not believe the pear grows that is blight proof. I have seen specimens of the Kieffer pear that I guess you could tell were pears without their having written on them, "This is a pear;" but if it was in the dark, you might mistake them for Quincees—they are about half and half. Still I think there is money in the Kieffer pear, for canning. It is certainly the best canning pear I have ever tasted. You all know the Bartlett is not a good canning pear—it becomes insipid. The Kieffer is a handsome pear, and it is very fragrant. It sells well in the market.

The PRESIDENT.—Do you cultivate all your pear trees, or do you leave any of them in grass?

Mr. WOODWARD.—They are all cultivated.

Mr. SCOTT.—I grow mine in grass.

Mr. WOODWARD.—Well, if I had such a soil as Mr. Scott has, I would grow mine in grass, but I have not got it.

Mr. SCOTT.—I leave my grass there; there is none of it taken off with the exception of what my hogs take in running through the orchard. The only thing that I have put on as yet have been ashes and salt; I use those rather plentifully. The only blight I have had, with the exception of one year that I had two trees blighted, has been on the Flemish Beauty.

The PRESIDENT.—After I had cultivated my pears, and seen they were all blighted more or less every year, I tried the grass. I kept a record of the trees for some years, and for a time they did seem to do better in the grass, and I thought it was going to be a good thing for them; but after a while I had to change my mind on that point. I have not any theories in regard to pear blight now.

Mr. SCOTT.—A pear tree ought to branch pretty low. None of my pear trees are branched higher than two feet from the ground.

The PRESIDENT.—Are they all standards?

Mr. SCOTT.—All standard.

Mr. WOODWARD.—Mr. Scott's pear trees are on those gravelly clay knolls.

Mr. SCOTT.—There is no gravel.

Mr. WOODWARD.—Well, it is stone. It is a very deep soil. It is something that the most of us have not got. I saw pear trees there last fall that made a growth of two feet or more standing right in that grass. His apple orchard is equally thrifty. I do not get any more growth where I cultivate, than Mr. Scott does in that grass. If I left my pear trees in grass, I would not get any growth at all to speak of—not more than two or three inches—and I would not get any growth of fruit. I would recommend Mr. Scott to leave his pear trees in the grass while they are growing in the way they are. I would mulch them.

Mr. GOTT.—How old is your orchard, Mr. Scott?

Mr. SCOTT.—About ten years.

Mr. DEMPSEY.—A number of years ago I took the pear fever, and I find it has been contagious over the country. I had been reading the work of VanMou's, of Belgium, and Thomas Rivers's "fruit garden," and I thought we could make perfect ornaments of pear trees. I took standard trees, and transplanted them once in two years, continuing to pinch them in and to maintain a low growth, and I succeeded in fruiting standard pears of not over three or four feet in height, perfect beauties. I used barlet, sulphate of iron dissolved in water, applied in a hand state. I was very successful, so long as I followed this theory out. I took pears to Mr. Elwanger, in Rochester, that he could not recognize, common varieties, such as the Belle Lucrative. I took some pears there one time that weighed fifteen and a half ounces. That was the heaviest. Thirteen ounces was the lightest. I tell you this to show that this sulphate of iron does have an effect on the fruit. I also at that time grew several varieties in ten inch pots, and produced enormous

pears. We had Duchesse of Bordeaux pears that would keep as long as a turnip. However, the blight got among my pet pear trees, and I lost one block of them. This was the first experience I had with the blight. I had a block of pears that had been grown on the quince, and they were planted on rather a light soil, and as we had an open winter—heavy freezing and no snow to protect the roots—I began in the spring to think there is a fire blight, but when I commenced to inspect the roots I saw they were all frozen. I had at this time a block of nice Flemish Beauty pears. Some of them had got to fruit. I almost worshipped my pear orchard, and so I planted another one of Flemish Beauties afterwards. After a little the blight got in, I was away from home considerably at that time; but when I would come home at night—the Saturday perhaps—I would go down through my pear orchard, and I could smell the blight, and I was disgusted with pear culture. There are only two or three of those Flemish Beauties now living, and they are producing scarcely anything. What was worse for me to get over was, that little spot would come on the pears early in the season, and they would crack clear to the core. The result is that we have not had a perfect specimen of Flemish Beauty pear for the last three or four years. The effect of that sulphate of iron and pinching system shows on one pear tree that I have yet. I have a White Doyenne tree that has been fruited for some years, and I let it do just as it pleased—cultivated around it every year and manured with wood ashes; and while I have had Flemish Beauties, White Doyennes, Bartletts, Beurre D'Anjou, and Beurre Clairgeau blighted all around it, that tree stands yet perfectly free from blight. There were some little spots on it last year, the first we saw on it. With respect to the profitableness of pear culture, I am satisfied it is more profitable than the culture of apples, provided your pears are properly grown, and a judicious selection of varieties is made—varieties that will succeed upon the soil you are wanting to plant—and provided the soil is well drained. I believe there can be more barrels of pears produced from an acre—take ten years for it after they come into bearing—than there can of apples. There are two varieties that I find have been so far almost free from blight. One of them particularly I have never seen any blight on yet, and I have some trees of it that will produce me six bushels to the tree this year. Most of them have been twenty years planted. This is the Doyenne Boussock. I have that planted on ground that was formerly a brick-yard; I have it planted on a heavy loam; I have it planted on light sand; and every where I have it it is growing well. I do not care to eat the pear, but it is not so inferior either. We shipped it to Montreal, and shipped Bartletts at the same time, and they would bring from fifteen to twenty-five cents more a basket. The first two or three crops of that variety of pear—and of several other varieties—that we get are inferior in flavour; but as the tree attains age, the fruit seems to increase in size and in beauty as well as in quality. Now, I have not told you about the greatest failures I ever made. I went to the expense one time of importing about two hundred varieties. I have about half a dozen of those varieties left, some of which are doing tolerably well, and some are almost worthless. I have tried cultivation with my trees; I have grown them right in the sod; I have treated them in different ways. The last tree I had of one variety, the Vicar, was growing among some raspberries and blackberries that we were trying to get out of our garden. These bushes had grown as high as the pear tree. All the rest of the trees had blighted, and I just concluded I would leave this one as it stood. That tree has continued to live down to the present, about seven years I think, since the time I refer to, with the berry bushes growing right up through it, and I have not yet seen any blight on it; and every year I go and pick enough pears off that tree to get a prize. We do not use the knife on any of our pear trees, and since I quit pruning them we have less blight. I have a little pear orchard that we cultivate continuously. We do not take anything else off the ground for the reason that you have almost to get down on your knees to get under the trees. The trees are close together; they are allowed to branch very low, and the branches mix in with each other. We cultivate them regularly, and spread wood ashes once a year over the ground. That is all the fertilizer we use. We find occasionally a blighted branch, particularly on the Belle Lucratives. We find it this year on Beurre Hardy also. We find more on Clapp's Favourite than on any other variety. We have some varieties that are mixed in among those that I have never seen any blight on. One would be the Josephine De Malines. As a winter pear I care for nothing better than that. I fancy if

we remove the blight as soon as we see it, we need not fear it very much so long as we are growing our pears on a well drained soil. Whatever we do in selecting a site for pear culture, let us select a site that is so drained that there is not enough moisture remaining in the soil to encourage the blight to grow.

Mr. WOODWARD.—At my horse barn I dug out a place for throwing manure. There are two Bartlett pear trees standing right beside it, and they bear the best of any I have, and there never was any blight on them. I let my boy build a hen house so that it comes right to the foot of a Bartlett tree, and that is the finest Bartlett tree, without exception, that I have ever seen—it bears every year till it is loaded down.

An exchange of courtesies between the President of the Association on the one side, and representatives of the Town of Woodstock present and the visiting American gentlemen on the other, then brought the proceedings of the Convention to a termination.

SUMMER MEETING.

The Summer Meeting of the Fruit Growers' Association of Ontario, was held in the Town Hall, Berlin, commencing on Wednesday, the 25th of June.

The President, Mr. Wm. Saunders, of London, took the chair at 10 a.m., and in opening the meeting said :

GENTLEMEN, —It is my pleasing duty this morning to tender to those of our friends who are present a cordial welcome on behalf of the Directors of the Fruit Growers' Association of Ontario. The weather is rather unpropitious for our meeting, but we hope that it will prove an interesting and profitable one. The object of the Association, in taking its meetings from place to place, is to diffuse light on subjects in which we are all interested. I do not mean that we are light bearers, but rather that we elicit light by stimulating discussion among the people of the different districts we visit, and in that way encourage and aid those who are endeavouring to advance the fruit interest of Ontario in the various parts of the Province. It is not my duty or my purpose to day to detain you with any lengthened remarks. The duties of the Chairman are light, as he is sustained by our worthy Vice President, Mr. Bucke, of Ottawa, whom I have much pleasure in calling upon to say a few words before we enter upon the discussion of the subjects to be brought before you.

Mr. BUCKE.—Gentlemen, I can assure you it is a great pleasure to the Association to be able to hold our present meeting in Berlin. This is the first meeting we have held here, and I have no doubt we shall find it both interesting and useful to learn of the condition and prospects of fruit culture in this locality. I think I need not add to what the President has said, but that we had better now enter upon the consideration of the very full and attractive programme which has been prepared for us.

THE ENGLISH SPARROW.

The first subject of discussion, "The English Sparrow, its Habits, Food, and the Food of its young," was then taken up.

Mr. BEADLE.—This subject was suggested by a gentleman in Berlin, who said the people in this neighbourhood wanted further information on the sparrow question. As for me, I cannot throw much light upon it. I asked my son this summer to make some observations on the sparrow, and he told me the other day that he had been dissecting the stomachs of some young ones that he had taken out of their nests, and that he had found in them more fragments of grain than anything else, although he had also observed some traces of cabbage worm, which feeds on our cabbages.

Mr. H. L. JANZEN, (of Berlin).—The sparrow is not yet very numerous here, and I do not think we are as yet in a position to form an opinion on its merits or demerits.

Mr. A. M. SMITH, (of St. Catharines).—My small fruits, being some distance from the city are not troubled by the sparrow. I have noticed a few of these birds about my house and garden, but I have not suffered any particular injury from them as yet, except that they rob the chickens.

The PRESIDENT.—I hope no one will be deterred from expressing his mind freely on this subject, because a correspondent in the *Horti-culturist* lately stigmatized those who oppose the sparrow as "sapient," which, according to our secretary, signifies, "sap-headed." The "poor little emigrant" has come across the Atlantic, and whether it is really useful or not, we wish to get at the truth. I hope the members will freely give us the benefit of their experience.

Mr. A. ROY.—I have noticed that since the sparrow has come to Berlin, the trees are freer from caterpillars and other insects. We have had them here now for about three years.

The PRESIDENT.—Have you noticed any particular species of caterpillars whose numbers have been thus lessened?

Mr. ROY.—I refer to the caterpillar that attacks our apple trees.

The PRESIDENT.—That, doubtless is the forest tent caterpillar. In London some three or four years ago we had enormous quantities of those caterpillars, and we had the sparrow at the same time. But the caterpillars have since disappeared, and I am of opinion that their disappearance is not in any degree due to the sparrow, but has arisen from other causes.

Mr. P. C. DEMPSEY, (of Trenton).—My son last year destroyed several of the birds, both young and mature, in order to ascertain what they were living on, and invariably found their stomachs filled with wheat, seeds and other grains, and very few insects. I have a friend in Belleville who was a warm friend of the sparrows, who was fond of hearing them sing about his house, and who had taken me to task in a lively fashion for opposing the "poor little emigrants." I asked him if they ever destroyed anything. "Not that I know of," he said, although he thought there were not so many insects about his garden as formerly. "Did you ever grow any grain in your garden?" I asked. "Yes," he said, "last year I undertook to raise some fancy millet, and before it was ripe I went to look at it and I found the sparrows playing around it, and the result was that there was not a seed left." If that is the general experience as to the sparrow, I think we could easily dispense with him.

Mr. WM. HENDRY (of Berlin).—I live a short distance from town, and I have seen these little creatures (the sparrows) scattered all along the road; in fact the difficulty with them seems to be that they remain too much on the streets, instead of being in our orchards gathering up grubs and insects. I constructed some boxes under my kitchen eaves for the purpose of inducing them to come among the trees. Since then they have been more numerous about me, and I have been observing their habits to see whether they do good or harm. It appears to me that while feeding their young they gather a considerable quantity of insects; I think they feed their young almost entirely on insects; but after their young ones are able to take care of themselves, it strikes me that they feed on what they can pick up on the streets rather than on the trees of our gardens. I have watched to see if they eat buds, but my impression is that they do not. I have detected them, however, picking off the little ring of eggs laid by the tent caterpillar, and I have not discovered any other kind of bird eating these eggs.

The PRESIDENT.—You are sure it was the sparrow that ate the eggs?

Mr. HENDRY.—I saw that myself. After driving the sparrows off, I have noticed that about half the ring of eggs was gone, and a day or two afterwards the rest was gone, and I concluded that the bird had come back and eaten it. I am satisfied that the sparrows are useful for destroying insects that injure our trees, and I should certainly at present vote against any movement to do away with them. At the same time, there are other birds which are very useful to us. For instance, our own red-faced sparrow, a little grey bird with a red face, I am satisfied is even more useful than the English sparrow. The robin is also a very useful bird. The only fault I have to find with the sparrow is that it is too much on the streets and not enough in the orchards. (Laughter and applause.)

Mr. JAMES GILCHRIST (of Guelph).—I was talking with Mr. Gilchrist a few days ago, and he mentioned the same circumstance that Mr. Hendry has, as to the sparrows eating those rings of eggs. He thought they were eating the fruit buds, but on driving them away he noticed that while the eggs of the caterpillars were gone, none of the buds were touched. I do not know how it comes that such a cry has been raised against the sparrows. If they were doing the amount of damage some contend, I do not think there would be so much to be made of it. I have noticed the same kind of complaint against them. There are hundreds of sparrows in my grounds summer and winter, and I have never known them to touch a fruit bud or to eat any small fruits; and as for eating the millet seed that Mr. Dempsey spoke of, there is not one of our native sparrows but will do the same thing. I have grown millet before the sparrows came, and I found that it was difficult to save it from our native birds. I have noticed the sparrows acting the part of fly catchers in chasing moths and capturing them. My opinion of them is that while they are of no particular injury to the country at large, they are quite useful for destroying injurious insects.

Mr. P. E. BUCKE (of Ottawa).—There are two or three small fruit-growers in Ottawa who say they will contract to feed through the winter any considerable number of sparrows that any gentleman may send down to us, in order to have them in the spring. During the past two years they have not found it necessary to apply any paris green to their bushes owing to the sparrows having eaten the bugs. I cannot speak authoritatively as to the merits or demerits of the sparrows, as I have not many about me. The complaint of one gentleman, whose opinion I sought with reference to them, was that they twittered so loudly about his windows in the morning that he was unable to sleep. I think the sparrow is at least as good a bird as the robin. In the spring at any rate, the sparrows are useful, but when the seeds and grain get ripe, they rather prefer them to worms and insects. They attack these in order to carry them to their nests as food for their young.

Mr. C. R. GEDDES (of Berlin).—I have no doubt at all that the sparrows do destroy a great number of insects and caterpillars of various kinds. I have myself seen them destroying the rings of eggs on the branches. There is no doubt that they sometimes eat grain as our native sparrows do. We have some destructive birds in our own country, and I think the "little emigrant" is sometimes blamed for injury done by them. My opinion is that they ought to be encouraged. They may eat a few grains of wheat, but not as long as they can get insects. When I was a boy, I destroyed hundreds of them in England, like other boys; I used to shoot them and dress them, and I seldom found in their stomachs more than a grain or two of wheat. I have seen the sparrows destroying pea bugs as fast as they would show themselves.

Mr. J. M. DENTON (of London).—I have watched the sparrows with a great deal more interest during the past year than at any time before. In England I always looked on them as a nuisance; but their song has a charm for me, even though it is early in the morning, because it reminds me of my boyhood. I have often watched them catching millers among the grass on my lawn.

The PRESIDENT.—The evidence I have been able to collect regarding the sparrow is quite contrary to most of what has been expressed to day. My son who takes great interest in ornithology has examined the stomach of one or two hundred of these birds, young and old, and nothing but what I have seen taken out of their stomachs. I think the amount of insect food they eat is very small, compared with the proportion of grain. I do not think the quantity of grain they consume is a matter of great loss as yet, since it consists chiefly of some particles. But as to their destroying insect pests, the experience gained in England is decidedly unfavourable. We have seen in some papers, including the *Horticulturalist*, reflections on people who assert that the sparrows eat fruit buds on our trees; but, unfortunately, it is a fact that they will eat buds; we have had some trees stripped by them of every bud. There are two sides to this question. It is quite true that the sparrows when feeding their young, do destroy a great many insects; but I am not disposed to give the sparrow all the credit for the disappearance in some years of insects which were formerly a great pest to us. Sometimes we find that a particular insect which for a number of years has been very abundant, suddenly and

without any apparent cause, becomes very scarce, and continues so for several years following. So far as I have been able to ascertain, these changes are brought about, not by birds, but by parasite insects, which feed upon them. If you take the trouble to rear a few caterpillars, you will find that five out of every six of them will produce not moths, but flies which feed upon and destroy them. I was in Ottawa a few weeks ago, when there was a great outcry about the ravages of the army worm. I went on a search for specimens, in company with two gentlemen who were very much interested in the matter, and we found that these worms were very abundant in the clover fields and very destructive to the clover. As we were collecting the worms, we noticed quite a number of them lying dead and rotting on blades of grass. These had been attacked by a species of fungus, which was destroying them just as epidemics sometimes do the higher races. I collected over a hundred of these worms, put them in boxes, and brought them home. The disease which was destroying them in the fields spread so rapidly among those collected that I failed to preserve a single specimen. I mention this circumstance to show that it is not safe to attribute every disappearance of insect pests to the birds, for there are other causes. I have no wish to disparage the birds; I am glad to learn that they eat the egg clusters of the tent caterpillar: that is one feather in their cap which I will not forget. I hope they will continue to work in that direction, and that the sparrows which have acquired this habit will be disseminated throughout the country wherever the tent caterpillar prevails.

Mr. BUCKE.—I would like to ask whether the stomach of the sparrow would not assimilate insect food more quickly than it would buds, and whether on that account the traces of insects in the stomach may not have escaped detection.

The PRESIDENT.—Of course the larvae of the insects would disappear very much more quickly; but the head and skin are hard and horny and are not easily digested, so that one can always by this means trace in the stomachs of the birds the insects they have fed on, and in what proportion. I would urge on the members of this association, those especially who are strongly impressed with the usefulness of the sparrow, to test their views by the very simple and practical method of occasionally having a sparrow pie for breakfast, and examining the stomachs of the birds so disposed of. The sparrows multiply so fast that I do not suppose anyone will feel many scruples about shooting a few occasionally. This is the most practical way of deciding the amount of good they are doing. It is impossible to tell by watching them, even in the case of the tent caterpillar, it is possible that the sparrow may be getting the credit for work done by some of our native birds. I do not wish to throw discredit on any testimony favourable to the sparrow, but merely to urge close observation, so that we may arrive at the truth whatever it may be.

Mr. GOLDIE. The sparrows are noisy about our dwelling houses, and probably a little dirty in their habits. These two things, so far as I can see, are the greatest objections that can be urged against them. I do not know that they are injurious to farmers. I have not heard a single individual complain of their going into the fields to eat wheat or oats or any other grain while it is in the straw. I do not think we can point to any positive injury done by the sparrow equal to what is done by the robins and the grackles in our gardens. In my experience they are much more destructive than the sparrows.

Mr. J. H. PARKER (of Woodstock).—I feel inclined to agree with the majority of the speakers to-day in saying a word in favour of the sparrows. They only visit my grounds occasionally. I was talking the other day with Mr. Newton, a neighbour of mine, on this question. His garden adjoins a large church, in the eaves of which a great many sparrows build their nests, and he is convinced that they do a great deal more good than harm, that they destroy an immense number of insects, and he would rather have one sparrow than fifty robins. The robins are fearful robbers, and at this particular time they do a great deal of injury to the strawberries. Mr. Newton has been trying to find out whether the sparrows eat any buds, and he has observed a bird with a red poll, considerably resembling the sparrow, that is very destructive of buds, but he has not known sparrows to eat buds at all. On the whole, I think the sparrow does a great deal more good than harm.

Mr. GEO. LESLIE (of Toronto). At the risk of being called a "sap-head" I must

oppose anything tending to increase or perpetuate the sparrow in this country. I take him to be a vegetarian in his diet nearly altogether. He has been called a "poor little emigrant." Well, I think we might properly class him as a pauper emigrant. Laugh-ter. If the Government would ship him back to the country he came from, I would be very glad, and would feel like whistling the "Rogues' March" to celebrate his departure. Applause and laughter. I consider him an absolute nuisance in the City of Toronto. In the first place, his noise in the morning to anyone who wants rest is something abominable. I have had some experience of the sparrow. We had our house covered with the Virginia creeper, but we had to cut it down because the sparrows made their nests in it and made such a terrible racket in the morning. Their droppings are also a great nuisance. I have seen a sparrow up to his neck in a Beurre Giffard pear, something I prefer keeping for myself. I have seen them strip the plum trees entirely of their buds. I have seen an acre of oats so devoured by them that I could not find a dozen grains in passing through it. That was on Mr. Hills' farm, a few miles from Toronto. I think the damage the sparrow does greatly outweighs the good, and the sooner we get rid of him the better.

Mr. JOHN CROIL (of Aultsville).—It is a pity that the "little emigrant" should be blamed for rousing us up in the morning. I agree with what has been expressed, that the blackbird and the robin, especially the blackbird, are doing us a great deal more harm than the sparrow.

Mr. H. L. JANZEN (of Berlin).—I have not noticed the sparrows about my place except in the neighbourhood of the barn, where I have seen them picking up grain. They have not yet done me any harm. I know that blackbirds and robins are very destructive to strawberries, raspberries, cherries, and other small fruits.

The PRESIDENT.—The question appears to me to largely resolve itself into one of numbers. In Toronto and London they are very abundant. When they were scarce we thought a great deal of the sparrows, but they multiply to such an extent that they have driven from our gardens almost all the other birds. Even the robin can hardly find a resting place where the sparrows are abundant. This summer the sparrows have followed the robins up to such an extent that we have not a robin's nest about our garden. As long as you have only a few sparrows about Berlin, you may be favourable to them; but when you come to have them chirping in thousands about you, especially at four o'clock in the morning when you want to sleep, I am afraid you will not admire the music any more than I do. I hope, however, as we have them amongst us, that they will prove more useful than we now believe them to be. In the meantime, let us collect all the information we can by observation and study of their habits.

QUESTION DRAWER.

QUESTION.—By Mr. A. A. WRIGHT (of Renfrew).—Would a plant, placed close to the south of a wall, be materially hastened in growth by painting the wall; if so, what colour should the wall be painted, and why?

Mr. DEMPSEY.—A few years ago we had a couple of very nice cherry trees in front of my house, and we changed the colour of the house from brown to white. Before the change the trees had been flourishing and producing crops of fruit annually; they only lasted about two months after we painted the house white. I would advise you never to paint your walls white, as the reflection of the heat from the wall would destroy the foliage of the plant at all events if it be a cherry tree; I presume the case would be the same with other plants. The trees I speak of were about fifteen feet from the painted surface of the house.

Mr. WRIGHT.—What would the effect be in the case of rhubarb or some other vegetable?

Mr. DEMPSEY. I have not had much experience with that particular plant; but almost invariably plants prefer a position in front of a dark coloured stone wall or an unpainted fence. In front of a glass structure, for instance, we find that plants flourish admirably, but any substance that tends to reflect the rays of the sun is injurious.

Mr. PARKER.—According to that theory, a lean to vinery against a wall painted white would not be successful.

Mr. DEMPSEY.—I have had some experience of a lean to vinery with a white wall at the back. In a very short time the foliage so shades the house that very little sunshine strikes the wall.

Mr. CROIL.—Some years ago I had a number of vines planted against a wall fourteen feet high that had been plastered and whitewashed, and the vines were so badly burned up that in the fall there was not a leaf left. So I consider the white wall injurious. As long as the glass was over the plants, and they were syringed daily, they were all right, but if exposed to the open air they were destroyed.

Mr. BEADLE.—I cannot say much from personal experience on this subject; but if I lived where Mr. Wright does, and wanted to hasten the growth of a plant by giving it more heat than it would derive from the direct rays of the sun, I would plant it at a little distance from the wall, so that the sunlight would strike the wall as well as the foliage of the plant; and I would paint the wall a dead black, so that it would absorb the heat of the sun in the daytime and give it out at night, producing a more uniform heat about the plant. In that way I think you would succeed in bringing the plant and fruit more rapidly to maturity, partly on account of the shelter from the wind afforded by the wall, and partly from the diffusion of heat at night from the surface of the black wall.

Mr. DEMPSEY.—Just one idea more. I have noticed that if the lean to has a very steep roof, the rays of the sun will be thrown directly against the back wall, whence it will be reflected. I have seen the best results from flat roofs, the flatter the better; and the plant should invariably be got as near the glass as possible.

PROPAGATION OF CURRANTS.

QUESTION.—By Mr. CROIL.—Can currants be propagated from single eyes?

Mr. BEADLE.—Mr. Croil wrote to me some time ago asking this question, and I suggested to him to ask it here. Since that time I have been in Mr. Lewis' propagating house in Lockport. Chase Brothers had imported a plant from England at considerable expense, and they gave him some of the wood—in fact had just cut the tops off their currants—and asked him to propagate it, and to make as many plants as he could. He cut it all up into single eyes, and these he set out. They started very nicely, but when I saw them they were dying off at a terrific rate. Mr. Lewis told me he did not think he would save a single one. I examined the buds, and I told him, "you have what we call the bench fungus here;" and I think that was the real trouble that was causing the destruction of his currant buds. Why they should not grow from single eyes as well as from four or five eyes I do not know.

Mr. CROIL.—I had one plant of Fay's Prolific, and obtained two more; and I wrote stating that I wanted to propagate it as fast as I could, and asking if I could propagate it in that way. You suggested that I should plant them according to the old plan, and I cut them up, not into single eyes, but into slips with two or three eyes each; but one single eye I did plant, I planted them in six or seven inch pots, and put them in the hot bed. They all grew, with the exception of the single eye, and they are to-day from four to eight inches high and thriving well. I have since put them in the ground without disturbing the pots, and I have now thirty plants.

Mr. R. C. GEDDES (of Berlin).—I have had some experience of this one bud system. Two years ago I bought a bush of Fay's Prolific, for which I paid a dollar. It was, I thought, a small miserable looking thing, and upon examining it, I thought I would dissect it and make what I could out of it. So I cut it up into single buds, taking a good piece of wood with each, and inserted them in the propagating ledge. They grew most luxuriantly the first year. I afterwards put them in the beds in the cold house, and this summer I sold some, and the rest I put in the garden, where they are growing very thriftily. Those were all from single buds, and I did not lose one.

The PRESIDENT.—Did you bury the buds under the sand?

Mr. GEDDES.—I just placed them on the top of the sand and pressed them in tight, and left the eye peeping above the surface.

Mr. LESLIE.—I have had some experience in growing currants from single eyes, and have had no difficulty as yet. My plan is to cut the bushes up into single eyes, and plant them with the eye on top, and the sand below. I first place them for three weeks in the greenhouse, and afterwards put them in boxes, leaving the eye just even with the top of the sand. In that way I have grown red, black and white currants without any trouble.

Mr. HENDRY.—I did not understand whether Mr. Geddes cut the stem off the whole piece, or whether he sliced it in such a manner as to retain a piece with each bud. I think it is important to know the form, because it might not grow in one form when it would in another.

Mr. GEDDES.—I take a liberal chip with each bud.

Mr. HENDRY.—You split the stem, and leave the bud with about half the stem.

Mr. GEDDES.—Yes.

Mr. LESLIE.—I do not split the stem, but make a considerable slant underneath the bud, so that in planting the bud will be even with the top of the sand.

QUESTION.—By Mr. JANZEN.—How can we destroy the worms that are now attacking the foliage on the red and black raspberries!

Mr. BEADLE.—Will someone tell us what kind of a looking worm it is?

Mr. JANZEN.—It is a caterpillar, not exactly what we call the currant worm, but softer and slimmer, and not quite so thick or long as the ordinary caterpillar. It is literally stripping my plants. I have sprinkled them with white hellebore, which has killed some of the worms, but some still remain. If left to go on in their own way, they will soon completely destroy our raspberries.

The PRESIDENT.—The insect referred to is the raspberry saw fly, which is very easily destroyed by the use of hellebore and water, or, in a stronger dose is required, with Paris green. I have never found any difficulty in destroying them with hellebore and water.

Mr. A. M. SMITH (of St. Catharines).—They have been very bad with me. I did not notice them until the raspberries were in blossom, and I have wondered whether there was any danger in using hellebore after the fruit was set.

The PRESIDENT.—None whatever. The insect almost exactly resembles the colour of the leaf so that it is very difficult to see it, but if you look closely, you will find it, and you need have no difficulty in getting rid of it in the way I mentioned. It is perfectly safe to use hellebore; in fact, I have no hesitation in using Paris green, even after the fruit has set, and eating the fruit afterwards, as the rain soon wash off the last traces of it.

FAY'S PROLIFIC vs. MOORE'S RUBY.

QUESTION.—By Mr. BUCKE.—Which is the best currant, Fay's Prolific or Moore's Ruby?

The PRESIDENT.—I think Messrs. Stone and Wellington are the parties who are propagating Moore's Ruby. I was asking Mr. Morris about it, and his experience of it was such as would warrant one in hoping that it might have a more extended cultivation. He seemed to prefer it to Fay's Prolific.

Mr. WRIGHT.—I have never had the plant until this year, but it appears to be thriving. As to the quality or size of the fruit I cannot speak.

The PRESIDENT.—Mr. Morris claimed that it was very much superior in quality to Fay's Prolific. While Fay's Prolific is large, it is not much superior to the ordinary cherry in quality. Mr. Morris cited Mr. Barry's statement at a meeting in Rochester in favour of its fine flavour, which he said was superior to that of any other red currant.

THE THRIP.

QUESTION.—By Mr. GOLDIE.—What is the best way to destroy the thrip, or to keep it off roses and grape vines?

Mr. THOS. BEALL, (of Lindsay).—My experience is that of my wife. A few weeks ago she adopted a plan of destroying the thrip on our vines in the vinery, and also on two or three vines on the south side of the house, along a brick wall. Her plan was to hold a

pan of water under the vines in the evening, when the thrips were congregated on the underside of the leaves, and knock the leaves on the top, so that the thrips would fall into the water. At first I laughed at her, because I thought it was a very tedious operation. The next morning she called my attention to a wash-tub of water standing at the back door. There were thousands of little grey insects on the top of the water. They were thrips, but they were alive. However, the next night she repeated the operation, using hot water, and this time she did not get half the number, but they were dead. She proceeded thus for two or three nights following, each time getting fewer thrips than before, and since then we have hardly been able to find a thrip in the whole place. It is possible that we may yet have another crop, but, if effectual, the plan I mention will well repay the trouble.

Mr. A. M. SMITH.—I have a little second-hand experience also. My wife, too, had a little fight with the thrips. She had a choice rose bush attacked with the thrips, and she threw under it some tobacco leaves and other rubbish, and then covered it with a sheet, and gave it a thorough smoking. The thrips did not appear to be fond of tobacco, and she cleaned them out in that manner.

Mr. BEALL.—Mrs. Beall has followed the same operation with her rose bushes for several years, and it is a very easy one. But it is not so easy to cover a grape vine in that way.

Mr. F. MITCHELL (of Innerkip).—I have had considerable experience with the rose thrips, as I grow a number of roses, and I find that the most important precaution in dealing with the thrip is to begin in time. We generally use whale oil soap-suds, or if we can't get that, some other kind, and sprinkle it on the underside of the leaves. Although there are plenty of thrips in our garden this year, even the black currant bushes being covered with them, our rose leaves are clean and untouched. We use nothing but soap-suds, but the main thing is to begin in time. Get the smell of soap-suds about the bushes, and they do not seem to care to attack them at all.

Mr. T. H. PARKER (of Woodstock).—My experience with tobacco smoke has not been very successful. I was very much troubled with thrip in my vinery two or three years ago, and I used to close it up and fill it with smoke. A day or two after smoking it, on going into the vinery in the morning, I would find the vines covered with thrips, but still alive, and when the sun came out they would recover and be as bad as ever. To destroy the thrips on my rose bushes I applied soap-suds made of soft soap, tobacco-water, hellebore, and a little Paris green. I told a neighbour I was using that, and he said, "The only other thing you need is a gatling gun." However, the mixture effectually destroyed the thrip.

Mr. GOLDIE.—I have been told that kerosene oil mixed with alcohol and water is very effective.

The PRESIDENT.—Kerosene oil is generally first mixed with milk by vigorous shaking for a long time, and then it can be mixed with water, and this emulsion can be used without any danger of the oil separating from the water. Mr. Mitchell, I think, has given us the secret of getting rid of the thrip when he says we should begin in time. When in the larval state, the bodies of the thrip are very soft, but as they grow older they develop wings which are very hard and horny. When full grown, tobacco smoke has very little effect upon them; but if taken in time, when they are soft, either tobacco smoke, kerosene oil emulsion, or alkaline washes, will destroy them.

Mr. DEMPSEY.—We have been very successful in the cultivation of roses for a number of years past by growing them convenient to where the women do their washing, so that every washing day the ground about them becomes partially saturated by suds. For ten years I have never known one of those bushes to be injured by thrips. Still, we are occasionally troubled with thrips elsewhere, which we are always able to destroy by sprinkling the bushes with hellebore or Paris green. But if you grow your roses where the washing is done, the soap suds will not only destroy the thrips but aid the growth of the roses.

The PRESIDENT.—While we are on the subject of roses, I may remark that I notice that the roses in this vicinity are suffering very much from the rose slug or saw-fly. This is easily got rid of by the use of hellebore and water.

BLACK KNOT.

The subject of "Black Knot on Plum and Cherry Trees" was then announced for discussion.

Mr. A. JONES (of Berlin). The only way of dealing with Black Knot that I can suggest is to cut it out and burn it.

Mr. JONES. It has destroyed a great many of our plum trees in this locality and has attacked the cherry trees also and nearly killed them out. There may be some gentlemen here who can enlighten us as to the cause of the black knot. As for getting rid of it, I think that all we can do is to cut out the branches affected and burn them as soon as it is discovered.

Mr. BEAVER. We have had a good deal of experience with black knot on plum trees; with us it has not spread to the cherry trees. After all my experience, which extends now over a good many years, I do not know much about it. It will keep coming whatever we do. I have whittled away at the plum trees until I have whittled them down to the ground, and then the black knot was gone, but so was the plum tree. But for nearly ten years past the black knot has almost disappeared from our locality. It killed off the best of blue plum trees which had been here years ago, and since then a new race of plum trees has been planted which is thriving and shows very little sign of black knot. How long this happy state of things will last I do not know, but I suppose we must expect another epidemic some time. I think the truth of the matter is, we do not know what causes the black knot. We do know that we sometimes succeed in arresting its progress by watching the trees carefully, and cutting off the black knot and burning it, and some have suggested washing the wood with chloride of lime after the black knot is cut away. I think I have prevented a tree from being entirely ruined by watchfulness and by cutting off the black knot when it is green. It is not black at first, but a mere swelling of the bark causing it sometimes to crack a little. I know of no remedy to suggest but watchfulness and cutting.

Mr. BUCKE.—Until lately I never saw such a thing as black knot in the Ottawa Valley. Last year, however, I got some small plum trees from Mr. Dempsey at Trenton, and some from Owen Sound, and black knot broke out on both sets, which was the first I ever saw of this pest in Ottawa. I carefully removed it, and I am watching these trees to see if black knot will live there.

The PRESIDENT. Anyone having the reports of the Guelph Agricultural College will find in the report of two years ago, I think, a very full account by Professor McMurrich of the fungus that produces black knot. It has been known for many years that it is produced by the spores of a particular fungus, which mature in July and are then scattered through the air. In certain sections the trees seem to be predisposed to this black knot, and it becomes epidemic like other epidemics in vegetable and animal life, and then it seems a very difficult thing to cope with. In my own garden I was never troubled with black knot until two years ago, and although I cut it out whenever it appears, it keeps coming continually, and there seems to be no end to it. I do not know why it should be more prevalent in one season than another except that the conditions may be more favourable to the growth of this particular fungus, which is equivalent to saying that we do not know much about it. The only remedy seems to be to cut the diseased parts out, and apply a wash made by boiling sulphur and lime together with water to the limbs affected, which is said to check the spread of the fungus.

Mr. D. McDONALD, of Berlin. Black knot prevails greatly in this country. A gentleman in town here has tried the experiment of boring a hole in one of his cherry trees, and filling it up with sulphur. I do not know yet what the result will be. I think it would be well to have it made known generally that it is the duty of municipalities to appoint inspectors to check the spread of this disease.

Mr. CROFT. I can tell you something about the experiment of inserting sulphur into the trees. I tried it some years ago. I bored a three-quarter inch hole in about fifty trees, and filled the hole with sulphur. They looked so well that I went on and treated a hundred trees in the same way. That, however, I now take to be a very unsatisfactory way of fighting the black knot; for that sulphur lies there to this day, owing to the fact

that sulphur is insoluble in water. Anyone who wants sulphur can get a quantity of it in my trees. (Laughter.)

MR. DEMPSEY.—As long ago as 1848 I tried this sulphur remedy to cure black knot so that it is not a new idea by any means; and I have never seen any evidence favourable to the prevention of black knot by sulphur. Since that time, we thought ourselves perfectly free from black knot in our section of the country, but it always came again, and now we are engaged in exterminating our trees for the second time in my experience. We are just cutting the trees away and burning them up, and we hope in a few years more to be able to begin to grow some plums and cherries again. I believe that is the remedy we shall be compelled to resort to every ten or fifteen or twenty years.

MR. H. BODWELL (of Ingersoll).—If black knot is a fungus growth, how is it that at a certain season of the year we find a small worm in the heart of the knot?

THE PRESIDENT.—The reason of that is that the larva of the curculio is able to live in this black knot. The curculio deposits its eggs in black knot, both on the cherry and the plum tree. You will almost always find one larva of the curculio in each black knot, where it feeds on the material of which this fungus is composed. It does not originate the fungus in any way. The sulphur remedy referred to is a very old one; it has been going the rounds of the press for nearly forty years. Sulphur is not soluble in water, not in the sap of a tree, and it only acts on fungi when it is converted into sulphurous acid by the action of the oxygen of the air, so that if you insert it in a tree and plug up the hole, it simply remains there. It does no particular harm to the tree any more than a nail or an iron spike, but nothing can be said in favour of either as a remedy for black knot.

MR. HENDRY.—I have found it difficult to believe that the cause was not in some way connected with insect life, but the explanation given by the President has relieved my mind. Until I heard that, I could not reconcile the presence of those little worms in the black knot with the statements of scientists, that it is a fungus growth. As soon as the knot begins to turn black we do not find them there, but we can see the little hole where they have gone out. If you cut into the knot in the very earliest stages, the worm is so small that it is difficult to find it. Later on, you will perceive a little red colouring matter, and as the worm grows the red colouring matter increases, and finally a little hole shows that the worm has escaped. So far as my trees are concerned, one-half of them grow in my grass plot, and one-half in my garden where the ground is well tilled and is a very rich, strong soil, and there is very little difference between them. We get as good cherries from the trees in the grass as from those in the cultivated ground, although I think there is more black knot in the latter than in the former. My own practice is to cut the black knot off, but not to cut out too much wood. If it is necessary to cut off a whole limb, I do so without any reservation, and cover the wound over with shavings. I work from the top down wards, cutting every affected limb down to the next healthy one, and under that treatment my trees are thriving. It is only by constant vigilance that black knot can be successfully coped with. The very first moment it is discovered it should be cut away and burned.

MR. BEADLE.—Perhaps a little experiment of mine, which I tried about thirty years ago, may be of use to our friend who has just spoken. I cut off a number of young black knots which were just beginning to make their appearance on the plum trees, and put them into some glass jars, at the bottom of which I had placed five or six inches of pure lake sand, washed perfectly clean, and freed from everything likely to have life. I covered the glass jars with a very fine gauze, and watched them. Presently I saw that the little worms had come out of the black knot, had gone into the sand and made themselves a nest there. After a time they assumed their chrysalis state, and two or three weeks later they came out of the sand as live curculios. That was a demonstration that the curculios are bred in the black knots; there was no other place from which they could possibly come. I traced them into the sand, into the chrysalis state, and into the perfect insect.

THE PRESIDENT.—Dr. Harris, who wrote thirty years ago on injurious insects in Massachusetts, took notice of the curculio in the black knot. Since that time many entomologists have verified his experience, and there is no reason to doubt that the larva in the

black knot is the larva of the curculio. The fact that black knot originates from a fungus is equally well demonstrated, as it has been traced from the beginning to the completion of its growth by competent observers. At first it was thought that the black knot on the plum and on the cherry tree were two distinct species, but they have since been proved to be the same fungus.

Mr. HENDRY.—It seems that there are certain times when the trees are more liable to be affected by the disease than at other times, possibly by the application of some chemical to the plum and cherry trees would prevent them from receiving the spores into the wood.

The PRESIDENT.—The thought expressed by Mr. Hendry is worth considering. I would suggest that sulphur and lime boiled together in water, and the liquid mixed with soap, would likely be a useful solution. And if some trees were painted with that, and some adjacent trees left unpainted, we might perhaps reach some useful conclusions. I would suggest that this experiment be tried during September and October. The spores mature most commonly in June and July, attach themselves to the bark of the trees, take root and remain dormant until the following spring, when they come out in their full strength. The solution I mention might deprive the spores of their vitality.

Mr. PARKER.—I believe there is a law for the destruction of this black knot. It is a pity the municipalities do not take advantage of that law. This association might do a great deal of good by stirring up the authorities to see that the act is carried out and proper inspectors appointed.

Mr. A. M. SMITH.—The old laws relating to the Canada thistle, to black knot on plum trees, and to the yellows on peach trees, have all been repealed, and a new law has been passed, authorizing the appointment of an inspector in each township to attend to all these matters. On the application of a certain number of ratepayers, the council is obliged to appoint an inspector.

COMMITTEE ON FRUITS.

The following gentlemen were appointed a Committee to examine the fruits on exhibition, and to report to-morrow:—Messrs. John Little, of Fish Creek, Geo. Leslie, of Toronto, and Frederick Moyer, of Berlin.

The Association then at 12.30, adjourned to three o'clock.

WHY TREES FAIL TO FRUIT.

On resuming, the following question was taken up: "Why do healthy and thrifty trees that blossom abundantly fail to set their fruit?"

Mr. GEDDES.—This subject was suggested by me, and I am anxious to have some light upon it. I have certain trees ten or fifteen years of age which are growing magnificently, and blossom every alternate year as abundantly as one could wish, but they never carry more than, perhaps a dozen, of fruit, and these generally fall before maturity. What the reason is I cannot tell. I have other trees in the same field that produce abundantly.

Mr. BUCKE.—The same variety?

Mr. GEDDES.—No.

The PRESIDENT.—What variety is it that fails to set its fruit?

Mr. GEDDES.—The Colvert apple.

Mr. HICKLING.—I have had trees that acted in the same way for several years, but I attributed it more to the cultivation of the soil than to the particular fruit.

The PRESIDENT.—Was it that you cultivated them too much?

Mr. HICKLING.—No, not enough. The same varieties that were cultivated bore fruit.

Mr. SIMON ROY (of Berlin).—The rains destroyed the blossoms. I have had similar experience with plum trees. Those that blossomed early bore an abundant crop of fruit. Those that blossomed later failed simply because the rain destroyed the blossoms.

Mr. BEADLE.—It is largely a matter of supposition, because it is difficult for one who has not seen the trees and knows all the circumstances, to say why they have not borne

fruit. Here is one fact regarding the Colvert apple tree—it is a very free growing tree naturally, but until it acquires some age and size it does not bear well, but after it begins to bear, it is a profuse bearer. If the difficulty were a late frost, or a rainstorm destroying the pollen, other trees in the same neighbourhood would likely be affected, and if the trees mentioned stand alone in this peculiarity, I suppose it must be because they have grown more thriftily than others.

MR. BUCKE.—I think the Secretary has struck the key-note of the trouble. I had some seedling plums that grew thriftily, and blossomed fully, but bore no fruit. By digging about the trees I slackened their growth of wood and they afterwards bore well. Sometimes it is the rank growth of the trees that prevents their setting their fruit.

MR. HENDRY. The difficulty is one which, I presume, we have all to some extent experienced. The only explanation of it that I have been able to form in my own mind is that when the pollen is at a certain stage, if a shower of rain or a frost comes, it injures or washes away the pollen and lessens the chance of fertilization.

MR. DEMPSEY.—A too vigorous growth I find generally prevents blossoming; but I have seen a great many trees that did blossom well fail to produce fruit, owing to some defect either in the pistil or the pollen. A shower of rain will sometimes deprive the pollen of its fertilizing power, or a very dry wind will in a short time so dry up the pistil that the pollen will not adhere to it. If you observe closely, you will perceive at the terminus of the pistil of every flower a sticky substance like honey which causes the pollen to adhere, and if that once dries away, the fructification fails. In artificial fructification we sometimes use a drop of honey to cause the pollen to adhere to the pistil. I presume, therefore, that either wind, rain, a cold atmosphere, or a little frost, will sometimes so injure the flowers as to fully account for lack of fertility.

THE PRESIDENT.—A great deal depends upon another element that has not yet been mentioned, that is, the presence of insects. If the weather is fine during that particular period when the fruit is ready for fertilization, so that flies and other insects are able to fly about from flower to flower, the chances of fruitfulness are very much increased. I do not think it often happens that fertilization takes place by the pollen being blown on the stigma, but that more generally the pollen is conveyed to the female organs by means of insects carrying it from blossom to blossom on their legs and wings. Hence the importance of fine weather during the blooming period, and the fatal effect of wet weather, on fertilization, no matter how abundant the blossoms may be. The pollen does not mature at the same time on all flowers. Some anthers will be ready to shed their pollen a day or two before others. Hence fertilization does not depend on one or two or three days. If it did, we should have failures much more often than we do now. But extending, as it generally does, over a week, we usually receive during that week at least some weather favourable to the fertilization of the blossoms.

QUESTION DRAWER.

APPLES FOR THE ENGLISH MARKET.

QUESTION.—By MR. THOMAS BEALL.—A person who has a sufficiency of apples for his family use and also for his local market, is about to set out an orchard of ten acres, the fruit being intended for the English market. What varieties, and what number of varieties would you recommend?

MR. A. McD. ALLAN (of Goderich).—On this subject I can only speak with reference to my own section of country. I do not know exactly what varieties will grow successfully in the Lindsay district. For actual profit I consider the Baldwin and the American Golden Russet the two best varieties. I would not advise a person planting an orchard of the size mentioned, or in fact of any size, to set out many varieties. The greatest profit, I think, is found in confining one's self to two or three well tried varieties.

MR. A. M. SMITH.—I would recommend the same varieties as Mr. Allan, wherever they will succeed.

MR. BUCKE.—The American Golden Russet proves to be quite hardy near Ottawa, and I fancy it would be equally suitable for Mr. Beall's part of the country.

Mr. BEALL.—The Golden Russets are nearly all hardy in my district. My principal object, however, in propounding this question is to endeavour to have impressed upon the minds of all fruit growers that it is a mistake to attempt to grow a large number of varieties. What we require to do is to ascertain the best two varieties for any particular locality, and, when we are growing for profit, to restrict ourselves to those. I suppose it is scarcely possible to name any two varieties which are suitable for every part of the province, but the Association should urge upon fruit growers the importance of limiting themselves strictly to those which have stood the test of experience.

Mr. A. ROY (of Berlin).—The Ribston Pippin and the Rhode Island Greening are the apples I have been shipping to England for the past half a dozen years, and they have always been well received. The Ribston Pippin is a remarkable bearer, too, and it should not be overlooked.

Mr. GEO. LESLIE.—I think it must be patent to everybody that very few varieties ought to be grown for the English market. One variety I have shipped is the Blue Pearmain. It is really a good apple, but it is not of first quality. The Ribston Pippin also does well; people say that it grows much more successfully in Canada than in England. The Baldwin and the Golden Russet are both first class, and have taken a good hold of the market. The Greening does not appear to have met with much favour yet. An apple that I think will make a good place for itself is the Colvert. When shipped it has usually commanded a good price.

Mr. A. M. SMITH.—My experience of the Blue Pearmain is altogether different from Mr. Leslie's. It is not worth growing around Grimsby.

Mr. LESLIE.—I picked eight barrels off one tree. It has been planted twenty years.

Mr. A. M. SMITH.—I know large spreading trees which have been planted thirty years that do not produce a barrel.

Mr. DEMPSEY.—Where the Ben Davis will grow successfully it is superior to any other variety, because it will produce more barrels to the tree than any other. If the tree is thinned out and properly cared for, it will set an enormous quantity of fruit. Even in the New York market last year the Ben Davis brought a dollar a barrel more than any other apple. The Golden Russet with us is a good, hardy apple, as is also the Ben Davis. The varieties to which I would give my preference are the Ben Davis, the Colvert, the King of Tompkins County, and the Golden Russet. We also find the Red Canada to be a good grower and perfectly hardy, and it brings high prices in England.

Mr. BUCKE.—How are you going to thin out the apples on the Ben Davis trees?

Mr. DEMPSEY.—You can do it with a club if you like, but I can assure you it will pay you to thin them, even if you have to send boys around with ladders to cut the apples out.

Mr. BEALL.—I would like to ask Mr. Dempsey, if a friend of his were going to set out an orchard, whether he would recommend him to plant the whole five varieties he has named, as a matter of profit.

Mr. DEMPSEY.—In our section of country the five that I speak of are succeeding admirably. The best results from any I have seen are from the Colvert. A brother of mine two years ago got \$500 an acre for Colverts. The trees of this variety bear right along, and the apples, when shipped to the old country, command a very high price.

Mr. ALLAN.—Did you obtain as good a price last year for the Ben Davis as in former years?

Mr. DEMPSEY.—With the exception of a barrel of Northern Spies, I had not an apple last year that was fit to ship anywhere.

Mr. ALLAN.—Last year my experience with the Ben Davis was that it went down in price. The people in the old country are beginning to dislike its quality.

Mr. BEADLE.—I wish to say a word for the Ribston Pippin. I believe there is as much money in that as in any other variety we have for the English market, in localities where it will grow and bear well. It is apt to begin bearing when it is quite young, which tends to retard growth and to diminish the size of the tree. Well, you can overcome that difficulty by planting the trees a little thicker than is usually the case with some other varieties which naturally grow large; but from all I know of that apple, it will sell in the English market next to the Newtown Pippin, if not equally well. Gentle

men in my neighbourhood who have shipped them to England, have there obtained for them from \$12 to \$15 a barrel. You must be careful to pick them a little on the green side, and ship them by fast steamer, and when they reach the market they will be in prime condition, and will sell "like hot cakes." Another fact not to be forgotten is that our Ribston Pippins will beat anything of the kind that can be grown in Britain.

Mr. DEMPSEY. The Ribston Pippin is perfectly hardy with us, but the largest quantity of fruit I have gathered from a Ribston Pippin planted twenty years was a barrel and a-half, and the best I have got from a Baldwin planted twenty years was twelve barrels, so you can just compare the profits. There is more money in the Baldwins at a dollar a barrel.

Mr. GEDDES. Might not the success of the Ribston Pippin depend upon the character of the land—whether it was high land or low land? I have seen Ribston Pippin trees growing on the banks of the Thames in England, that were fairly breaking down under their load of fruit; but here I cannot grow them—my land is high and dry—and that is what leads me to ask this question.

Mr. BEADLE. If they do not grow, that is a misfortune of this locality and of Mr. Dempsey's locality. In my section they bear so heavily that the branches have to be propped up.

Mr. LESLIE. In my locality it is a first-class bearer, and the fruit is splendid. We have trees planted twenty-five years that frequently produce five or six barrels each.

Mr. BEADLE.—If you have a tree from which you can pick five barrels that bring \$10 a barrel, you will make more money than if you had a tree that yielded twenty-five barrels which only brought a dollar a barrel.

THE PRESIDENT. It is evident from this discussion that the best policy for those looking to the English market is to confine themselves to one or two varieties that succeed best in their own neighbourhood.

THE BEST FERTILIZERS FOR RASPBERRIES.

QUESTION.—By Mr. H. BEDWELL (of Ingersoll).—What is the best fertilizer for raspberries? Is sawdust of any benefit?

Mr. JOHN LITTLE (of Fish Creek).—I never put sawdust fresh from the mill on either strawberries or raspberries, but if you get it three or four years old, when it is well rotted, it is capital for strawberries, and I suppose it would be equally good for raspberries. But the best fertilizer for raspberries is a liberal supply of wood ashes, either leached or unleached.

Mr. S. ROY (of Berlin).—In my opinion the best fertilizer is well rotted manure. As for sawdust, it is a capital thing for mice to burrow in and to facilitate their work of destroying the trees.

Mr. GOLMIE.—Give your bushes plenty of room, and then, when you can get it, good stable manure is the thing.

Mr. LITTLE.—A word of caution here. If you manure raspberries on rich land you will get plenty of vine and leaf, but very little fruit. As for sawdust from the mill it will sour the land, and will rather be an injury than a benefit.

Mr. HENDRY. I have always had a prejudice against sawdust, and consequently have never used it, but I apply liberally both ashes and stable manure. I put 500 bushels of unleached ashes on less than one acre of land, and that same soil has brought me one crop of the best potatoes I ever knew. My land is a strong, heavy clay, and I find the ashes to be the best fertilizer I can use. I have not used coal ashes at all. I am satisfied, from my experience, that a good coating of wood ashes one year and a good coating of stable manure the alternate year will give the best crop of raspberries we can get. I find that the heavier dose of unleached ashes I give my land the better crop I obtain.

Mr. CROIL.—What do you pay for ashes?

Mr. HENDRY.—Ten cents a bushel delivered.

Mr. HILBORN.—Is that treatment for red raspberries?

Mr. HENDRY.—Red and black—I treat them all alike.

Mr. HILBORN. My experience is that barn yard manure is as good fertilizer as you

can use for all sorts. Wood ashes are also good. If I had to choose between them I would take the barnyard manure.

Mr. A. M. SMITH. I would use both if I could get them. I prefer barnyard manure to ashes, but if I could not get it I would use ashes. With regard to sawdust, I think a good deal depends upon the kind of wood it is made from. Pine sawdust is not as good as that from other wood; it does not decompose rapidly. I would recommend mulching the raspberry bushes with sawdust in the fall.

Mr. WM. COPPLAND (of Berlin).—What effect would sawdust have on light land? Would it not dry it too much?

Mr. A. M. SMITH. It would be too dry if there was too much put on before it was decomposed.

Mr. CROIL. May I ask Mr. Smith if he has used tan bark for mulching?

Mr. A. M. SMITH. I have never tried it. I have tried chip manure and sawdust mixed together as a mulch for my raspberries, and with very good results.

Mr. DEMPSEY. I have used leached and unleached ashes extensively, but it occurs to me that if we require 500 bushels to the acre at \$50 an acre it would be a rather expensive manure for raspberries. If we repeated that process annually we should require a very good crop to pay for it. I should rather use half a ton of bone dust, which would only cost \$20, for with this I have never failed to get a good crop; and then bone dust lasts a number of years. I prefer both bone dust and good wood ashes to stable manure, which is the most expensive manure we can use.

A MEMBER.—Where do you get the bone dust?

Mr. DEMPSEY.—We used to get it from Mr. Lamb in Toronto.

Mr. LITTLE. If you use stable manure, unless you turn and re turn it constantly you will have clover in it, and that we find a great disadvantage in strawberry culture.

Mr. DEMPSEY. How much unleached ashes are required to destroy the white grubs?

Mr. LITTLE.—I would put in fifty bushels to the acre before planting, and after planting I get the young folks to go and sprinkle the ground with it everywhere.

Mr. DEMPSEY. I have applied about 140 bushels to the acre, and have found just as many grubs afterwards as before. We have thrown the grubs in ashes to see how long they would live, and have taken them out the third day as much alive as ever.

Mr. WRIGHT.—I use unleached ashes largely, and find them an excellent manure, but I have never known them to destroy the grubs. This year the grubs have utterly ruined my onions. For clay soil, ashes is one of the finest possible manures; it converts the soil into a good workable loam.

Mr. BEADLE.—Mr. Croil asked about mulching with tanbark. I have done that with strawberries. I do not say it did any harm or any good, except to keep the sand off the berries.

Mr. CROIL.—Would you cover strawberry plants with tan bark in the winter?

Mr. BEADLE. No, I should not expect to see them again if I did. Strawberry plants are very easily smothered. I just cover them with sufficient straw to protect them without concealing the leaves. If you do more than that you run the risk of killing the plant.

FRUIT TREES IN SOD.

QUESTION.—By Mr. HENDRY.—Will fruit trees thrive and bear as well in sod as in bare ground, provided an annual dressing of fertilizers be applied, the grass be kept short as in a lawn, the cuttings left on the ground, and the grass kept out around the stock?

Mr. CROIL.—A neighbor of mine, Mr. Raymond, has a very nice orchard of about 500 trees, which was planted the same year as mine. His orchard has been seeded down in grass from the commencement, while mine has never been seeded down until the last year; and these two orchards are set down as about equally good. Still, I certainly prefer having mine ploughed.

Mr. S. Y. SCHANTZ (of Berlin).—It has been my practice, when setting out a young orchard, to seed it down, mulch the trees with coarse straw manure, and keep the sod clear around the trees for two or three years. In a young apple orchard it is very important to have the trees well mulched with rough manure.

Mr. DEMPSEY.—I have a couple of pear orchards, one of which is in sod and the other cultivated. The one in sod has no fruit, while the other shows a very fair prospect. Again, I have a small apple orchard in sod and another that is cultivated. In the cultivated one I get a nice crop of raspberries every year, and the apple trees are loaded with fruit, while there is scarcely any fruit on the others. The trees in the cultivated ground make wood about twice as fast as those in the sod. I would not under any consideration listen to the idea of seeding an orchard down, except with clover, where manure is scarce, which is a very cheap way of fertilizing.

Mr. CROIL.—If you have cultivated your orchard for ten years, and your trees are planted 30 feet apart, I think you must have done a great deal of damage to the trees by ploughing among them. I had to seed down from necessity, in consequence of the injury I was doing in that way. Don't you find that an objection to cultivating your orchard?

Mr. DEMPSEY.—No.

Mr. CROIL.—Your trees must be very high.

Mr. DEMPSEY.—Four feet and a half. I can plough both ways by leaving a space about three feet square at the trunks of the trees. It is true we cut a certain number of roots.

Mr. CROIL.—I am speaking of damage to the limbs.

Mr. DEMPSEY.—A few of the limbs may be injured, but not to any great extent. We also cut some roots, but "Thomas Rivers' Fruit Guide" recommends the cutting of the roots of trees, as it makes them stronger and more prolific. He also recommends cutting a trench all around the tree every two or three years, and then fertilizing it. The year following this operation the tree will throw out an immense number of young roots. I have closely followed this system with a pear tree, regularly pinching and root-pruning it. At last I let it grow as it would. It is now about eighteen feet high. I have never seen any blight on it, and it produces a fine crop of pears every year. So I am satisfied we do not damage our trees very much by cutting some of the roots with the plough.

SPENT LIME AS A MANURE.

QUESTION—By Mr. J. H. PARKER.—Of what value, if any, is spent lime from gas works, as a manure for general crops?

Mr. BEADLE.—I will give my experience of its value for the one purpose for which I have used it. I have some walks leading from my house to the gates, and in other directions, and I have covered these walks with a layer of probably half an inch of gas house lime, and put about half an inch of gravel on top, and I have never seen a weed come up there since. (Laughter.)

Mr. GOLDIE.—Some years ago I had a little experience with gas house lime, and my experience was very similar to Mr. Beadle's. If used largely it is sure to kill all vegetation that comes in contact with it; but, by mixing it with soap suds and letting it lie for six months or a year, I have found the compost to be of good value. I have sometimes used the liquid that comes from the gas works, but in that I could not see much value.

Mr. PARKER. The reason I ask that question is that in many places it is used as a manure, and, when composted, is said to be a very valuable manure, while in other cases it is said to be of no value at all. I am connected with the gas works in my town, and we have been selling the lime at a dollar a ton. One farmer took a large quantity of it, hauling it ten miles. One day his son was in, and I asked him what effect it had. He said, "If you like to come and see our farm, and compare it with our neighbours' farms, you will see the effect. It is altogether ahead of any other farm in the neighbourhood." There is very little doubt that the lime is valuable, if composted, allowed to lie for a year, and used sparingly. But if too much is applied, like salt, it is injurious.

The PRESIDENT.—The usefulness of gas lime depends very much on the quality of the coal from which the gas is made. The object in allowing the lime to stand for a long period before using it, is to free it from the sulphur which is united with it. The sulphur and lime united make just such a compound as is recommended to be applied to apple trees to destroy the grub. The sulphur being volatile, is slowly eliminated, and then you

have remaining the lime, which is a very variable nature. I should think that the liquid from the gas works, which contains ammonia, would show better results than Mr. Goldie has stated.

Mr. GOLDIE.—I do not say so.

The President.—Nearly all the sulphate of ammonia used now is obtained from the gas liquors. It is a very variable nature.

COAL ASHES AS A MANURE.

QUESTION.—By Mr. C. R. GEDDES.—Is there any value in coal ashes as a manure?

Mr. BEADLE.—I have tried coal ashes merely as a mechanical agent in very stiff clay soils. I think it valuable there just as so much sand to loosen the soil and to make it lighter and more workable. For manuring purposes I do not think that coal ashes have any value; at least, if they have, it is so infinitesimal that I think a ton of pure lake sand and a ton of coal ashes are of about equal value.

Mr. BUCKE.—I have used soft coal ashes in making walks in the same way as Mr. Beadle has used gas lime, and they make a very nice walk indeed.

Mr. J. C. BOWERS (of Berlin).—I should like to say a few words with respect to the usefulness of coal ashes for pear trees. I had a very large pear tree which was getting somewhat aged and decrepit, and to rejuvenate it I thought I would try an experiment with coal ashes. I put about thirty bushels about the tree, and the results were surprising. The tree is as thrifty to day as it was thirty years ago, and it has grown remarkably since the ashes were applied six years ago. At that time it had every appearance of dying.

Mr. A. M. SMITH.—Were there any wood ashes mixed with the coal ashes?

Mr. BOWERS.—No; they were pure coal ashes.

Mr. BUCKE.—Did you mix them in the ground?

Mr. BOWERS.—I put them on the top of the ground, and left them to mix in themselves. I suppose the tree is one of the largest in the Province. The largest yield of fruit it has given in one season was twenty-four barrels.

Mr. DWIGHT.—We have found coal ashes useful for loosening clay soil, but have not tried them as manure.

Mr. HOOPER.—I have seen coal ashes put on clay soil, and I thought they made it harder instead of looser.

Mr. CROIL.—I should recommend coal ashes very much for a mulch. I should like to hear Mr. Geddes' opinion.

Mr. GEDDES.—My experience of coal ashes in mulching is not very great. I had a very fine pear tree, a variety recommended by this Association, Clapp's Favourite. I introduced it into this section, and took a large number of prizes with it. But, unfortunately, my family took the notion to throw their coal ashes about it, and I found that it destroyed the bark of the tree.

Mr. WRIGHT.—I wish to make one remark with reference to mixing ashes with clay. We sometimes put sand in with clay to make bricks, and sometimes to make the clay mellow. It all depends on the state of the soil when you dig it. If you mix it when the soil is wet, you will make a brick, but if you do so when it is dry you will make a fine mellow soil.

WIND BREAKS.

BY DR. ELY OF SEBRINGVILLE.

The Secretary then read the following paper by Dr. Ely, of Sebringville, on this subject:

The proper protection of his stock and his crops is a question of so great importance to the agriculturist that it deserves the serious consideration of all that take an interest in the prosperity of the country.

Everyone knows the importance of providing shelter in a storm, and protection against

cold for our cattle and other live stock, but few seem to consider (though they can appreciate it for themselves) the value of shade trees for their stock. They forget that cattle, like other sentient beings, suffer immensely from the fierce rays of a July sun. Let us remember that our cattle suffer from heat and thirst, and we shall no longer wonder that our cows break off in their milk when the warm weather comes on and they are pastured in a field without a single shade tree, and without getting water from morning until night.

But not only our cattle, but our plants also require protection. Our farmers need not be reminded that their fall wheat suffers greatly from too early exposure in the spring to the cold, dry north-west winds to which our country is frequently exposed at that time of the year. Many of the older settlers will remember that it was not always so. It is well known that the growth of fall wheat is becoming more precarious each year, and that the spring crops need much better cultivation than formerly. Why is this?

It is well known that instead of the snow lying equally all over our fields—as was the case when they were well protected by forests—it is now driven by the fierce wintry blasts to the fences and roads, while the middle of the field has a very thin covering, which melts away on the approach of a few warm days in the spring, leaving them exposed to the cold, dry winds of which I have already spoken. This difficulty constantly increases as the denudation of the country of its forests goes on. In South-western Ontario, the Western States and the great North-west, where there are no mountain ranges to check the force of the winds, protection must be sought by artificial means.

As our country is almost entirely able, it cannot be expected that a sufficient area will be left wooded to afford the necessary protection to our fields. At best there will be large tracts exposed to the full sweep of the wintry blasts. To provide a protection against these an extensive system of tree planting should be adopted. Not only should every roadway have a belt of trees at its side, but every field should be protected by a good belt of trees against the prevailing winds. Were this done throughout the length and breadth of the country we would soon realize the difference. There would doubtless still be storms, but their force would be broken. Snow drifts would be almost unknown. While the whole country would be cleared and under a high state of cultivation, it would enjoy almost the same immunity from storms as if it were one continuous forest.

But it is objected that so extensive a system of tree planting would take up a very large amount of soil from cultivation. True, but would it be better to have an inferior crop on ten acres than a good one on nine?

In Europe it is estimated that 25 per cent. of all lands must remain forested in order to retain the rest in a state of fertility. Where the forests are reduced to any considerable extent below that amount, it is found that the climate becomes changeable. Great droughts will become prevalent, while at other periods there will be great floods and inundations. The amount of the total rainfall during the year or a series of years may vary little from what it should be, but instead of the precipitation being more or less constant it becomes fitful, with heavy storms at times followed by long droughts.

The disastrous results that are sure to follow the continued denudation of our forests are now so generally recognized that it will not be necessary to impress them on this occasion. Countries that were fertile while they had a due amount of forest, or were covered with fruit trees, have become almost barren deserts since they have been almost entirely despoiled of their trees. I need here only refer to Palestine—a country at one time described as flowing with milk and honey; in other words, it was rich in pastures and flowers. At a later date, while its hills and mountains were covered with fig and olive trees, it supported a dense population, but deprived by barbarous hands of its trees, the soil, instead of being retained on the hillsides, as was the case while it was densely interwoven with the fibrous roots of trees and grasses, was washed down into the valleys, leaving the hills and mountains as barren rocks. It would require several centuries of careful tree planting to accumulate a new soil and restore it to its pristine fertility.

On the great plains of this continent the injurious effects resulting from the denudation of forests would not be as rapid and as destructive as in a hilly or mountainous region, but sufficiently so to require the serious consideration of statesmen and economists. To avoid those evil results much may be done by systematic tree planting.

Let us suppose a man has 100 acres or some multiple of it. Now, let us suppose he

After the trees have grown to such a size and height that they begin to crowd each other, every second tree in the second and fourth rows on each side should be removed, and when they again begin to crowd each other every second tree in the remaining rows should be cut out. This will reduce the number of trees to one half and will leave the trees eight feet apart in the rows. When the trees grow still larger, so as again to become crowded then the second and fourth rows on each side of the middle row must be entirely removed. This will leave the trees eight feet apart each way. This will give them ample room to grow to a fair size, but if it is desired to have very large trees, they must be given still more room. Care should always be taken to preserve the original diagonal plan, as that will offer the most effectual check to the winds.

By stretching wires along one of the rows of trees after they have grown so large that cattle can no longer injure them, a good fence will be obtained, while the cattle find ample shelter on each side of it.

The object in planting so closely as I have advised is to get the trees to grow upwards, and not waste their strength in throwing out side branches. By planting them closely they will all grow upwards so as to keep in the light. Some writers advise planting even more closely than I have directed. Some direct planting a tree every two or three feet. This, I think, except in special cases as the ash, elm, hickory, etc., which can be used while still small, would not be found advisable. The thinnings will hardly pay for the extra labour and expense.

This is a subject of great importance to fruit growers. Our orchards need the protection that would be afforded by such shelter belts as I have described. It is astonishing how little attention is paid to the protection of our fruit trees against storms. How many orchards have any protection whatever? Yet how much might be done profitably in this direction by a little labour and a trifling expense. The time will come when a man would no more think of planting an orchard without a shelter belt of trees than he would leave it without protection against cattle or sheep. The one is as important as the other. On the prairies of the western States this subject is better understood. There great efforts are made to obtain protection against the fierce winds that sweep unchecked over the treeless prairies, while in Canada, so rich in forests and woodlands, we put forth no exertions to retain or restore the protection so lavishly provided by nature.

In conclusion allow me to quote the testimony of a few men whose great experience makes their opinions on this subject worthy of the highest consideration.

A writer in the *New England Farmer*, Vol. vi., 350, in speaking on this subject, says: "It is indeed astonishing how much better cattle thrive in fields even when moderately sheltered than they do in an open, exposed country. In the breeding of cattle a sheltered farm, or a sheltered corner of a farm, is a thing much prized; and in instances where fields are taken by the season for the purpose of fattening cattle, those most sheltered never fail to bring the highest rents."

That enthusiastic tree grower, the late Dr. John A. Warder, of North Bend, Ohio, in a paper read before the Northern Illinois Horticultural Society, speaking of shelter belts for fruit trees, says: "Evergreens may be planted here and there through the orchard with very great advantage. A single row of such trees outside will afford a great deal of protection from the winds after a few years, indeed, from the first; but a closely planted belt of two or three rows will be much more effective. These should not be set too near the orchard trees; two rows may be allowed, or, if closer, the outer rows of the apples can be cut out in a few years to make room for these nurses when they require more space. The evergreens may be set in double or triple rows, and alternately, so that every tree shall be opposite the space in the next row.

Referring to the Scotch pine, Prof. C. S. Sargent says: "The rapidity of its growth in all situations and its economic value, make the Scotch pine the most valuable tree farmers can plant for screens and windbreaks about their fields and buildings, and for this purpose it is recommended, in the place of the more generally planted Norway spruce, which, though of rapid growth in its young state, does not promise, in our climate, at least, to fulfil the hopes which were formed with regard to it.

O. B. Galusha, of Illinois, says: "I think it may be safely estimated that an average of one-twelfth part of all our crops of grain and large fruits are destroyed by violent

winds, which a system of protection, or its equivalent in groves, would so far check as to prevent the destruction. It may be true such protection would save the husbandman and orchardist its entire cost every two, or at the most three, years. Such protection, too, would by causing the snow to remain spread evenly over the surface enable farmers to raise winter wheat in localities where it is now impossible to do so. If we add to the benefits of the culture already considered those far reaching and incalculably valuable climatic influences which would flow therefrom, we must also admit the necessity of commencing this great enterprise at once and prosecuting it with vigour."

The following suggestions concerning shelter belts are offered by Messrs. H. M. Thompson & Son, of Milwaukee, Wis.

"It has been found that belts from seven to eight rods in width are, all things taken together, the best. These belts should be planted on the outside with some evergreen whose roots would strike deep into the ground and do not spread near the surface, and whose leaves and branches will afford protection from the winter winds. In the centre can be placed the deciduous trees. If, however, the farmer wishes to experiment, and should think belts of this width entail too much cost and labour, belts of two or three rows will be found to make remunerative returns, and even one row planted, say not more than six feet apart, will give rich returns in increase of crops, and add very much to the attraction of the estate. The trees for planting should be those best adapted to the soil and situation, and will not vary much with different localities. Belts composed of Scotch pines, Norway spruce, white ash, and European larch, planted from the outside of the belt in the order named have been found to meet, in almost every particular, the need for which they are planted, and to afford to the farmer every protection in the way of timber he can want. The value of such a timber belt is felt very early, and cuttings for stakes, hoop-poles, beam-poles, and fuel begin to reach earlier than may be thought; while the after products of hoop-poles, telegraph poles, railroad ties, and lumber for general use follow year by year, and are a constant annual source of profit."

In a lecture delivered in the University course at Rockford, Illinois, in 1870, Hon. J. G. Knapp, of Madison, Wisconsin, speaks thus of the influence of forests: "An extensive farmer in Ontario Co., New York, informed me some years ago that out of 200 acres of promising wheat which he then had growing, all was completely destroyed except those portions sheltered by woods, the total loss being four or five thousand dollars, most of which, he believes, would have been saved had his land been protected by timber belts."

The *Minnesota Forest Tree Planters' Manual* says: "The protection thus afforded to growing crops would of itself have been of inestimable value. The protection afforded to orchards and other fruit growing institutions would alone repay the cost, while the comfort afforded to man and beast would be beyond the power of figures to express."

MR. BEADLE.—I wish to ask leave to thank Dr. Eby for giving us this paper. It is a labour of love with him. The subject he has brought before us is one in which fruit-growers and farmers generally throughout the country are taking a great deal of interest. We have wasted much labour and energy in cutting down too many of our forests, but it is not too late to preserve what remains or perhaps to build up again. We possess great wealth in our forests in Canada if we rightly husband them; but if we go on cutting them down without any reference to the future, the time will soon come when we shall have killed the hen that lays the golden egg. The Americans are urging strongly for a repeal of the duty on foreign lumber in order that they may come here and destroy our forests and keep their forests to themselves—in other words, to sacrifice us to their good. If our Government and our people will insist that our forests shall be cared for, and that only as much timber will be cut as will give our own people a continuous supply, as is done in Germany, we may preserve this heritage that God has given us for ever. Mr. President, I want to thank Dr. Eby for bringing this question before us. (Applause.)

THE PRESIDENT.—I am sure we all join in the sentiment expressed by the secretary, of thanks to Dr. Eby for his valuable paper. I would ask the gentlemen present to signify their thanks to Dr. Eby by rising.

The Association unanimously responded by rising to their feet.

Dr. EBY. — I am very much obliged for the hearty manner in which you have received my paper. I hope it may be of some service to you or to some readers in the future, if it is, I shall be amply repaid for my labour in preparing it. (Applause.)

THE BEST FRUITS FOR BERLIN AND VICINITY.

The PRESIDENT. — The next subject on the paper is one that should especially interest the people in this district. — What are the best varieties of fruits for Berlin and vicinity? We hope all the local men will give us the benefit of their experience.

Mr. HENDRY. — My experience has not been quite extensive enough to enable me to say positively what are the best varieties for this neighbourhood. I have a small growing orchard in which the apples that have always succeeded best are the Maiden's Blush, the Early Harvest, the Sweet Bough, and the Duchess of Odenburgh. These bear regularly every year. Of pears I only grow a tree or two. The most successful varieties of raspberries with me are the Philadelphia among reds, and the Gregg and Doolittle among blacks. The Mammoth Cluster is dying off year after year, from what cause I do not know: the stem turns black. The gooseberry I have not paid much attention to. I first tried the Houghton but changed to the Downing, which is a better bearer and produces superior berries. I have discarded the growing of strawberries except to a very limited extent, as the dry weather barned them out terribly. The bulk of my strawberries are Chas. Downing, which grow well, are easily taken care of, and will yield three or four crops before it becomes necessary to turn them under. The Sharpless I always have, my only difficulty with it being that the robins are too fond of it. There is no danger of the robins touching the Wilson so long as you can feed them on the Sharpless. For market it is too delicate, but for home use it is certainly a very fine berry. On the whole, my experience leads me to prefer the Chas. Downing. I grow no cherries but the sour cherry commonly grown here. The finer varieties of cherries, after growing for a few years, die down, whether from the summer heat or winter cold I do not know. Pears do not succeed here. The Bartlett does fairly well, however. I have only a few grapes. The only ones I have been able to ripen are the Delawares and the Champions. I have also Moore's Early, the Telegraph and the Concord, but I have never been able to do much with them, and this summer they look less promising than ever. The frost killed the vines considerably, and I find that they are sprouting up from the roots. I have quite a number of plum trees. The Lombards have been my best bearers. The curculio is rather destructive to them. I lost two or three of my trees this spring. I think they were weakened by overbearing and unable to stand the severity of last winter. The Bradshaw and the Imperial Gage have grown very well. We like the quality of the Gage, but I think the tree is not very hardy.

Mr. M. B. SCHANTZ. — I have as yet had very little experience in fruit growing, as I am just beginning. Of raspberries I have, like Mr. Hendry, found the Philadelphia the best. The Cuthbert is a nice berry, but is not very prolific. The same may be said of the Gregg. Of the larger fruits, I am not yet in a position to speak with confidence. My apple trees have not begun to bear yet. I have a number of plum trees growing, but I cannot get them to bear. They all go to wood and foliage. The Sharpless is the most satisfactory strawberry I have.

Mr. BOWERS. — We do not raise more small fruits than we require for family use, sometimes not enough for that. Apples are our standard crop. The Colvert and the Northern Spy are both successful: but the Newtown Pippin is my favourite. In pears, the Bartlett and the Flemish Beauty both grow very well. We used to grow some plums before the black knot came. The only plums I have now are a few of the Wild Goose, and the black knot is beginning to attack them. The cherries are all gone except the Ox Heart, and the black knot is appearing in it. The only grape I have is a blue French grape, which I grow for family use. It ripens in the latter part of September or beginning of October. My father got a cutting of it from a man who brought it from Alsace. It sets nicely in the bunch and is a good eating grape. Though not so sweet as the Delaware, it has a better flavour than the Concord.

Mr. GEDDES.—The most successful varieties of apples I grow are the Rhode Island Greening, the Baldwin, the Duchess of Oldenburgh, and the American Golden Russet. I have also an apple called the Gates, which is very useful either for cooking or dessert. It ripens in October, and will keep till Christmas, but not longer. It is slightly striped, and its flavour is delicious. Plum trees with us are a failure. They have gone down one after another until I have not one left. Cherries have suffered equally. My opinion is that the sooner we get rid of all our cherry and plum trees, for a time at any rate, the sooner shall we get rid of the black knot pest. Strawberries I do not grow. In red raspberries, I confine myself to the Clark, which suits me very well, and in blacks, to the Mammoth Cluster. The Early Wineson would take well in our market if it could be grown, but I fear it will not stand the winter. Gooseberries are not a success with me; the Downing, I suppose is the best, although it is subject to millew. Houghton's Seedling is very small, and I think is hardly worth cultivation, at any rate for market.

Mr. S. Y. SHANTZ.—For an early apple, my choice would be the Red Astrachan. The St. Lawrence and the Calvert are both very nice. The English Russet is quite hardy here. The Northern Spy is also a hardy tree, but the greatest objection we have against it is that it takes a long time before bearing fruit. I have some trees which have been set out nine or ten years on which there is no sign of fruit yet. The Baldwin is rather tender for our climate, otherwise it is a very fine apple. The King of Tomkins County is a good apple, but it is not a very good bearer with us. We have quite a lot of Greenings and they are quite successful for a shipping apple.

Mr. BUCKE.—Where do you market your apples?

Mr. SHANTZ.—Generally in town, where they are often bought by shippers. The Snow apple is a good bearer, but during the past few years the fruit has been very much spotted.

Mr. GOTT.—Have you had that difficulty with other varieties?

Mr. SHANTZ.—Two years ago all the apples we had were scrubs, except the Red Astrachan and Golden Russets, which were as fine apples as we ever had. But the Snow apples were so poor that they were not worth picking for cider.

The PRESIDENT.—Do you grow any pears?

Mr. SHANTZ.—We have a few old trees that are doing pretty well. One is the Flemish Beauty; the names of the others I do not know, as they were on the farm when I got it. We have also a lot of young trees that are just coming into bearing. Our soil seems to be too heavy for English cherries, and last year we cut down all the common cherry trees, owing to the black knot. We have a few pears, but the crop renders them of very little value, although last year we had a fair crop. As small fruits, we only raise a few strawberries and raspberries for our own use.

Mr. FREDERICK MOYER.—Of apples, I would recommend the Red Astrachan first, and the Duchess of Oldenburgh next, the trees of both are very hardy, and that is an important consideration in our climate. The Calvert is a good tree and a fair bearer. The Golden Russet I consider the best late apple of all. I cannot recommend the Northern Spy, as the tree no sooner begins to bear than it begins to die. The Ribston Pippin is unsuccessful, as the fruit is apt to drop before it is ripe. The King of Tomkins County I like very well, but it is not a heavy bearer, and I have lost nearly all my trees from winter killing. The Rhode Island Greening is also too tender, and the Baldwin is "played out" here altogether, the trees have nearly all died. The same is true of the Spitzenburgh. Talman's Sweet bears well. I have the Tetitsky and the Peewaukee, both of which do well. The Alexander is hardy, but I do not care for the apple. The Titovka I got this year for the first time; it appears to be growing nicely. I lost hundreds of pear trees last winter, I am sorry to say. The Flemish Beauty is the only one I would recommend. Six or seven years ago, I got thirty-five varieties of pear trees, and now I have only three or four varieties left. The Lawrence is a pretty good winter pear. Last winter was especially destructive to my pear trees. A few years ago plums grew abundantly, but now, I am sorry to say, my chief work in my plum orchard is cutting down the trees. I had once also about forty cherry trees, of over a dozen varieties, but now I have only two varieties, Governor Wood and Black Eagle, and little more than the same number of trees left. I am just beginning to grow small fruits largely. I have a

large variety of raspberries, including the Mammoth Cluster, the Doolittle, the Philadelphia, the Clark, the Reliance, the Turner, the Brandy-wine, and the Highland Hardy, all of which are very successful on my soil, which is heavy loam: with a gravelly sub-soil. The strawberry I chiefly cultivate just now is the Sharpless. It was so highly recommended and I liked it so well a few years ago that I planted an acre. But I won't go it so strong again. I think every man should experiment cautiously at first. The Crescent Seedling shows a good crop. The Wilson bears well, but my neighbours do not like it. The Manchester, however, I prefer to all others. I raise four varieties of currants—White Providence, Black Naples, Lee's Prolific, and the Champion of England. Fay's Prolific I tried two or three years ago, and it did not grow, but this year I got it from Mr. Leslie, and it is growing nicely. In blackberries, Stone's Hardy is the best; I have not lost one plant. While others froze last winter down to the snow line, this variety escaped unharmed.

Mr. ALEX. ROY.—I raise a few varieties of apples, pears, and plums. The best varieties of apples, according to my experience, are the American Golden Russet, the Rhode Island Greening, the Ribston Pippin, the Northern Spy, and the Maiden's Blush. I have several other varieties, including the Roxbury Russet, the Dutch Mignonne, the Duchess of Oldenburgh and the Beauty of Kent. In pears, I have the Flemish Beauty, the Bartlett, Clapp's Favourite, the Eurydale, the Hozenchenek, the Beurre Bosc, the Sheldon, the Louise Bonne de Jersey, the Osband's Summer, Elliot's Early and others.

Mr. GORT.—What is your experience of the Bartlett?

Mr. ROY.—The trees are hardy. In plums, I have the Bradshaw, the Lombard, the Yellow Egg, Coe's Golden Drop, the Imperial Gage, the Green Gage, the English Damsion, and others. I have red, white and black currants—the Red Cherry and the White Grape. I do not grow grapes at all. The only strawberry that I cultivate is the Crescent Seedling.

At six p.m. the Association adjourned until eight o'clock.

On resuming the discussion,

Mr. GEO. COPELAND. The idea I wish to bring before the meeting is not so much what can be grown successfully as what cannot be grown successfully in our neighbourhood, that is, about eight miles east of Berlin. The Ribston Pippin has proved to be an almost entire failure on light soil, the tree not being healthy and the fruit not coming to perfection. The Spitzenburg and the Greening may be placed in the same list. We have also found this season that only the very hardiest kinds of raspberries have stood the test of winter. The Mammoth Cluster and even the common black raspberry bushes were frozen down to the snow line. The Cuthbert suffered from frost, but recovered better than the other varieties. The Turner, however, came through perfectly hardy. The three varieties of apples I have mentioned succeed well in some orchards; but the fruit-grower who plants any of them in light soil in this neighbourhood will, I think, only meet with disappointment and loss.

Mr. SIMON ROY.—The varieties of apples I would recommend for this neighbourhood are the Northern Spy, the Golden Russet, the Ribston Pippin, the Canada Red, and the Rhode Island Greening. The pears I would recommend are the Flemish Beauty, the Bartlett, the Supreme de Quimper, the Kingessing, the Louise Bonne de Jersey, the Doyenne d'Été, the Duchesse d'Angouleme, Elliot's Early, and Beurre Diel. Plums have given a failure, owing to the black knot. The Yellow Gage, however, appears so far to have been entirely exempt from it. The Victoria currants are the best; the White Providence, La Versailles, and the Cherry are also good. I would not advise anybody to plant the Red Grape currant. Lee's Prolific is a very good currant, very similar to the Black Naples, which still takes the lead among blacks. The White Grape currant is dwarfish in growth, but a great bearer. My cherry trees keep destitute of fruit, and are all afflicted with black knot.

Mr. LESLIE.—I would like to ask Mr. Roy for some information about his Russian mulberry.

Mr. ROY. I have two varieties of mulberry, the Chinese and the Russian. The latter is of good size and very sweet. Mr. Jacob Y. Shantz grew it from the seed. The mulberry can be grown from cuttings like the gooseberry or the currant.

Mr. H. L. JANZEN. With regard to apple, the Red Astrachan is our first hardy variety. The tree never winter-kills, so far as I know, and is an abundant bearer, and the fruit is of good size, of excellent quality, and saleable. The Tetofsky would perhaps come next, but its size is a little against it. Where only the hardiest varieties succeed the Tetofsky would be an excellent choice, but here, where we can grow other apples, I do not think it would be wise to plant it extensively. The Duchess of Oldenburg is hardy—I never heard of it being winter-killed—it is an abundant bearer, it bears every year more or less, and the fruit is large, of fine quality, is a splendid cooking apple, and a fair keeper for an early apple. That is the apple I would place next. Then I would name the St. Lawrence—it is a magnificent apple. The Autumn Strawberry is also a fine apple, hardy and a good bearer. Then comes the Fall Pippin, and that would complete the list of summer and autumn apples for a small orchard. Among winter apples I would plant the American Golden Russet more extensively than any other variety. It is an iron clad tree that will stand any amount of cold, and will bear every year. The apple is a good keeper and an excellent shipper, and is much sought after in the English market. Another excellent variety is the Northern Spy. It is true the tree is a long time in coming into bearing, still, thorough pruning will hasten its maturity, and when it once begins to bear it will bear heavily. The Baldwin succeeds with me, although with some of my neighbours it has been winter-killed. The King of Tompkins County is another excellent variety which has succeeded in my orchard, while in others it has proved too tender. With regard to pears I think the Bartlett is the best we can grow. The difficulty is that the tree winter-kills. That, however, can be obviated to a considerable extent by grafting it on a hardier variety. The Duchess d'Angouleme never winter-killed with me, and the fruit is large and of good quality. The Louise Bonne de Jersey, the St. Lawrence, and the Beurre Chagou are all good croppers. The Seckel is a very nice pear, but rather small. The Beurre d'Angou I have found quite hardy. The Flemish Beauty is more subject to blight than any other variety. Though a large pear, a good cropper, and as hardy as any we have, in some seasons it is entirely ruined from this cause. Of plums I have not had so much experience. I have a number of varieties, but the black knot has been terribly destructive. The Imperial Gage has suffered less and succeeded better than perhaps any other. The Washington is a very fine plum; the tree is hardy and thus far has been comparatively free from black knot. The Lombard was one of the first attacked by it, however. Cherries I would put down as almost a complete failure in this district with the exception, perhaps, of the common sour cherry and the Early Richmond. We grow the Eaton, and although it blossoms abundantly every spring, our frosts are so late that the blossoms are nearly always destroyed. During the past six or seven years I have only had one crop of sweet cherries. In strawberries I have had better success with the Colonel Cheney, have made more money and given better satisfaction to my customers than with any other variety. I esteem it very highly. It is as good a cropper as the old Wilson's Albany, and I think has a sweeter and better flavour. The Crescent Seedling has given great results. It is a very abundant bearer, but towards the close of the season it dwindles down to so small a size and the plants multiply so fast that they seem to exhaust the old plant, and it never does so well after the first year. I have also grown the Bidwell, but I cannot speak very highly of it. The Sharpless proves to be the best large variety I have, and where people discriminate, I think I should grow that variety, but here the Crescent Seedling will bring as good a price as the Sharpless. I have grown a number of other varieties, including the Captain Jack and the Charles Downing, but I would place the Colonel Cheney at the head of the list. With regard to raspberries, the Philadelphia, I think, is the hardiest red I have grown. It is a better grower and cropper than the Turner.

Mr. BEADLE.—Does the Philadelphia sell well in your market?

Mr. JANZEN. Yes, it sells quite readily, but not quite so well as the Cuthbert, which is a fine large berry of excellent quality and very fine colour; but the Philadelphia is more productive.

* A MEMBER. Do you grow the Francoia?

Mr. JANZEN. I have the Francoia, but I do not like it. It does not bear very w-

with me. The Reliance did well during two or three seasons, but in the last two seasons the plants have receded considerably.

Mr. GOTT. Have you any good yellow variety.

Mr. JANZEN. The Golden Thornless is the best yellow variety I have had; but I do not care much for the yellow varieties. I do not think their quality is equal to that of the reds. There may be some tender varieties which are better in quality, but we cannot grow them. Among the blacks, my favourite for market is the Doolittle, and the next would perhaps be the Mammoth Cluster. We also grow the Gregg, but it is too tender for our locality, and is winter killed nearly every year so badly that there is hardly any crop. Of currants we grow the Cherry, La Verneilles, the White Dutch, the White Grape, the Black Naples and Lee's Prolific. Mr. Roy spoke of the resemblance of the last two varieties. The only difference I can see between them is that Lee's Prolific is more subject to dropping the berries than the Black Naples. In colour, size and flavour the berries are much the same. In gooseberries I have not done much. The Downing and Smith's Improved I like the best. The Houghton is rather small.

Mr. BUCKE.—Mr. Janzen's experience has been so different from Mr. Roy's that I would like to ask if there is any difference in their soils.

Mr. JANZEN.—I think Mr. Roy's soil is more clayey than mine. Mine is principally sandy loam. Then I am located on almost the highest part of Berlin, while Mr. Roy's land lies quite low.

Mr. ROY.—In my soil you will find one part sandy loam, another part clay, and another part gravel.

THE STRAWBERRY.

The subject of "New Varieties of Strawberries" was then taken up, in connection with which Mr. W. W. Hilborn, of Arkona, read the following paper:

It being too early to give a satisfactory verdict on the merits of different sorts, I will only give a few notes, and first those taken just after the frost of 29th May:

All berries set, and all blossoms open killed on all varieties.

Wilson's Albany—About half out in bloom, many killed not open.

Crescent Seedling—About one-fourth out, very few killed not out; very promising.

Capt. Jack—Not many open, but few hurt not out.

Sharpless—Half out; a great number hurt not out.

Kentucky—Just beginning to open, not many hurt unopen.

OF ARNOLD'S SEEDLINGS.

Arnold's Pride and Bright Ida—About half out; many killed not out.

Maggie and Alpha—More than half out; not many killed not open.

New Dominion—About one-third out; not many hurt not open.

Early Canada—Out most of any; perhaps two-thirds, made a good show for early fruit.

Bidwell and Miner's Prolific—About one-third out; not many hurt not out.

Piper's Seedling—One-third out; plenty buds left for a crop.

Seneca Queen—One-half out; not many hurt not out, enough buds left for a crop.

Mt. Vernon and Gold Defiance—Just beginning to open: quite a number hurt not open.

Jersey Queen—None out: a great number killed not out, fruit buds most tender of any sort.

Manchester—Very few out; not hurt to any extent.

Daniel Boone—The same.

James Vick—Not more than one-tenth out, not enough buds killed: one of the most

profuse bloomers I have ever seen, none more safe from late spring frosts than the last three.

JUNE 23RD. Early kinds ripening quite fast. Of the old varieties, Crescent is far ahead of all other sorts. Next, in order of merit and ripening is Wilson and Capt. Jack. The greatest objection to Capt. Jack is that it pines from the hull too easily, which makes it difficult to pick. The Manchester, a late introduction, gives great promise of being one of the most profitable late sorts grown, is a strong grower on all soils, and throwing up strong fruit stems with a large number of berries of large size, good shape, and holding well to the end of the season. James Vick must be grown either in hills or very narrow matted rows, as it is a strong grower and sends out so many fruit buds that it cannot bring one halt to perfection unless grown as above. It is quite firm, will ship well. Of all the new sorts we have tried Daniel Boone stands far ahead, we have no old or new sort that makes such a grand show of large, even-sized fruit, good flavour, a strong grower, with strong fruit stems holding the fruit well up from the ground, although this is the first season we have had it full fruiting, it has been one of the most trying, it succeeds equally well on sand or clay loam. I think it has come to stay.

Prince of Berries we have only fruited on spring set plants, it is very promising, plant strong and healthy, fruit of best quality.

Atlantic, fruited only on spring set plants, I think will be very firm with good flavour, plant resembles the Wilson very much.

Jersey Queen is such a poor grower, I think it will be of little value.

Big Bob, big only in name, no value.

Piper's Seedling produces a great quantity of medium-sized fruit of poor quality.

Bidwell, too light in colour, too many imperfect berries.

Golden Defiance is very fine for a late sort for home use, not quite firm enough for market.

Mt. Vernon is a very promising late market variety. I think it will be very valuable.

Mrs. Garfield is not doing as well as I expected, shall give it another season's trial.

Cornelia is making a good growth of plant and shows indications of being the latest of all, as claimed by its introducer.

We have also on trial a number of other new varieties, some of which are quite promising, among which are Sucker State, Grand Duke, Legal Tender, Ct. Queen, Oliver Goldsmith, and some others, which we hope to report on next season, can only say now that they are all strong, healthy growers. We have also a great number of varieties that are of little value, although they were given the greatest praise by their introducers.

I think it is well to try a number of varieties in a small way to find out which will suit your soil and locality best; there is often a great difference in a short distance. For our locality I would name as the four best and most profitable varieties for market, Crescent Seedling, Daniel Boone, Wilson and Manchester: I think they will succeed on nearly all soils, and they cover the whole season. I hope we may be able to add one or two out of the many new sorts on trial.

MR. GOTT. We are glad to hear from Mr. Hilborn on the subject of strawberries. We would like very much, however, to know on what soil they are produced, whether clay loam or sandy loam, and whether subject to frost or not.

MR. HILBORN. My soil is naturally well drained, a high, dry soil. We have strawberries both on sandy loam and clay loam, and they appear to be equally good. The clay loam is underdrained and the sandy loam is naturally drained by a gravel subsoil.

MR. HUGO KRANZ, M.P. for North Waterloo, being present, the President requested him to address the association. In reply, he said: I must confess that I have more experience in fruit eating than in fruit-growing. I just dropped in to night in order to learn something. You have heard Mr. Roy and Mr. Janzen, the two oldest fruit-growers in this country, who, I think, can give you the results of the general experience here.

THE PRESIDENT.—What varieties of strawberries do you prefer?

MR. KRANTZ.—Good, sweet juicy ones. (Laughter.) I think the character of the soil and the lay of the land have more to do with the quality of the fruit than the particular variety. If you plant a fine variety on poor soil, and neglect it, it will soon degenerate. In Ottawa last winter, before the Committee on Agriculture, a gentleman

who gave us some information as to the best breed of cattle, remarked that the best variety of cattle is that which comes to the level of the intellect of the man who owns it and takes care of it. You may have the very best breed of cattle in the world, but the slovenly farmer will ruin it, while a good farmer will take our common native cattle, and with care and attention will make a good breed of it. The same thing is true of our fruits: it is cultivation that will bring them to perfection, and I believe our farmers may always raise plenty of fruit. I thank you very much for the few minutes during which you have listened to my poor remarks on the subject, to which I am almost entirely a stranger.

Mr. R. McMAHON.—I remember the time when I was about the only one in this part of the country who cultivated strawberries: now nearly everybody is growing them. I began with two varieties, the early Scarlet and the Wilson. Of the two I prefer the latter, which always succeeded well until lately. Now I prefer the Crescent Seedling, the Sharpless, and the Manchester.

Mr. LITTLE.—The most profitable strawberries for market are the Crescent Seedling, the Captain Jack, and the Wilson where it is well grown. The Colonel Cheney on good soil and properly fertilized you will find few to excel. Mr. Hilborn has several new varieties this year, including the Daniel Boone, the Mrs. Garfield, and the Cornelia.

Mr. A. M. SMITH.—What is the best new variety you have fruited?

Mr. LITTLE.—I think I would give the preference to the Daniel Boone and the Cornelia.

Mr. BEADLE.—What is your opinion of the Mrs. Garfield?

Mr. LITTLE.—With care and cultivation you will get a fine berry and plenty of them.

Mr. A. M. SMITH.—I do not grow strawberries for the fruit so much as I do for the plants. I have brought a number of samples to this meeting. A good many of them I have not been able to fairly test yet. All of them were just taken out of the bed where I had them growing for plants. [Mr. Smith exhibited and described some of the different varieties, including the James Vick, Arnold's Pride, the Daniel Boone, the Jersey Queen, Finch's Prolific, and others.] The Daniel Boone bears well, and I think is a good berry. For a general market berry I don't think we have got anything better than the Wilson yet, but in some localities you can make more money out of the Early Canada. This year, for my first picking, I got 25 cents, for the second 20 cents, for the third 18 cents, and for the fourth 13 cents a quart. The same price I realized for the first Wilsons. I have a berry that I got from Mr. Riddell: he lost the name of it, but he thinks it is the Harvey Davis. It has done remarkably well. The Manchester this year I left entirely alone, and the consequence is that there is not much fruit on it, but it would be valuable if fertilized.

Mr. LITTLE.—In 1882, when the Manchester first came out, I set out a number of plants of that variety, as well as of the Jersey Queen and Big Bob, perhaps two or three hundred feet away from any strawberries that were growing, and though the time was wet, and they could not be fertilized by the wind or the bees, I had from all three as perfect berries as any I ever saw. Perhaps the Secretary can explain that. Experts will tell you that you cannot produce a perfect berry without fertilization, but I sometimes think they go a little beyond nature.

Mr. BEADLE.—If you look closely at the flowers you will often find one that has both the stamens and pistils, and I presume it is these that gave you the berries.

Mr. DEMPSEY.—I have not tested many new varieties this season; I have a few of those that are not strictly new, which were set out in 1881 or 1882. Of all the new varieties I have tried up to last year I have found nothing to equal the two old varieties, the Wilson and the Crescent. I expressed the opinion two or three years ago that Arnold's Pride would yet come to be one of our choicest berries. It still remains, and will continue to remain, a new berry, however, until some one takes it up and pushes it. We have fertilized the James Vick a little this year: the fruit is all right if we could sell it by count, but by measure I am afraid it will scarcely pay.

Mr. CROIL.—I wish to say a word about the early Canada. Some time ago a gentleman sent me some plants. They came to me in perfect good order, and I planted them. They grew well, bore heavily, were hardy, and they were the only berries that were ripe

when I left home. I think their eagerness will always commend them. The berries are somewhat sour, and they are rather small, but this is probably owing to the fact that the season has been remarkably dry.

Mr. BUCKE.—I would like to ask Mr. Little if he has tried Arnold's Pride.

Mr. LITTLE.—Yes, and I liked it remarkably well, only it was rather soft for shipping any great distance, but for the home market I think it is a fine berry.

Mr. F. MITCHELL, of Inverkip.—I took the strawberry craze a few years ago, and I tried every new variety as it came out; and I can corroborate what a good many gentlemen have said this evening as to the Crescent Seedling and the Wilson, standing at the head. While I was so enthusiastic, I advised some people to plant these new varieties and they did so to their sorrow. I advise them now to confine themselves to the Crescent and the Wilson for market, and to the Sharpless for the table.

Mr. WRIGHT.—The principal varieties grown in my neighbourhood are Wilson's Albany and the Sharpless. We have also a few of the Triomphe de Gand and the Colonel Cheney.

Mr. BUCKE.—Arnold's Pride, the New Dominion, and the Sharpless, are the varieties I chiefly grow, and with success.

The Association then adjourned to the next morning.

On Thursday morning, June 26, the President took the Chair at ten o'clock.

NEW RASPBERRIES.

The first subject taken up was "New Varieties of Raspberries."

Mr. A. M. SMITH, who was requested to open the discussion, said:—I hardly know how far back I am entitled to go in speaking of varieties as new. I suppose the Cuthbert is new to a good many. It is the best new red that I have fruited. I have not yet tested the Hansell sufficiently to be able to give an opinion upon it. Last year I fruited one of Mr. Arnold's reds, which was pretty successful. His Diadem did not turn out so well. The Souhegan, a new blackcap, is very promising. That and the Tyler and the Hopkins are very similar. Of the old varieties, the first one to ripen is the Highland Hardy, which I believe to be identical with a raspberry I knew fifteen years ago as the Elm City. I have made more money out of it than out of any other; but it is rather soft for shipping. The Turner comes next in ripening. It is of better quality and hardier than the Highland Hardy, but is still too tender for a successful shipper. The Philadelphia is an excellent bearer; it will produce more fruit than any other red variety. The Clark is very good in quality and a medium bearer, but a little soft for shipping; it is a first class home berry. The Herstine is a better bearer, but even less hardy. The Brandywine is quite hardy, the best for shipping a long distance. It bears fairly and is of medium size, but is so prolific of suckers that you require to frequently use the hoe to keep them down. Brinckle's Orange is an excellent yellow raspberry for table use, but too tender for any part of Canada unless protected in winter. The Caroline is claimed to be similar to Brinckle's Orange, but though hardy and productive, in point of quality it is many degrees below it. Among blackcaps there has been more demand for the Gregg than any other, but it is a little too tender for our severe winters. The Ohio is a new blackcap highly recommended for its hardness and productiveness, though I have not fruited it yet. The Niagara, a red raspberry sent out by the Association, is a very fine, good sized, prolific berry, but it is a little tender and was slightly winter-killed last winter. Its colour will commend it for market, being similar to that of the Philadelphia. These are the principal varieties I have grown.

Mr. GORR.—One thing we want badly is a good yellow raspberry. Brinckle's Orange if a little more hardy, would fill the bill satisfactorily. Amongst the newer reds, the Thwack is a promising variety. The Cuthbert is giving universal satisfaction wherever introduced. The Hansell, a new red, is not so successful. It often appears to be a mass of suckers without fruit. The Niagara promises well. We have fruited it on our grounds, and find it a fine, hardy grower, with a good, bright coloured fruit. Amongst the blacks,

favourite new varieties are the Tyler, the Souhegan and the Hopkins, which are all very much alike. After all, the Gregg is really the standard blackcap; it is one of the most substantial berries for market purposes, indeed I might say for all purposes, that we have. It may not entirely supplant the Mammoth Cluster, but we think it as good, and in some respects better.

Mr. HILBORN.—We are fruiting several new varieties of raspberries. The Cuthbert I regard as the best red. The Hansell, I think, is nearly as good as the best wild berry we get. (Laughter.) The fruit is small and scarce. Among blacks, we are fruiting the Tyler and the Souhegan this year for the first time. We are also fruiting the Hopkins, which I think will be a little larger than either, but not quite so early. We have also, one of Mr. Little's seedlings called the Early Canada, which seems productive, very hardy and early, but I am afraid will not be large enough.

Mr. LITTLE.—The Tyler, the Souhegan, and the Hopkins ripen at nearly the same time, and they are very excellent berries. With regard to red raspberries, I think the Cuthbert is king over all, although it is a little tender this year. I do not think enough has been said in favour of Shaffer's Colossal.

Mr. LESLIE.—I do not know that I have anything new to add. We have found the Cuthbert more reliable than any other variety we have tried.

The PRESIDENT.—Have you found the Gregg tender?

Mr. LESLIE.—Not exactly tender. It kills back a little, but still it yields a very fine crop.

Mr. BEADLE.—I might say, with regard to the Souhegan, the Tyler, and the Hopkins, that they ripen about the same time, and if I turned you into my berry patch, I don't think you could tell the difference between them. Sometimes I fancy one variety is a shade larger than another, and then I go again the next day and find that I have been mistaking a Hopkins for a Tyler. I am really unable to see any difference. You will find either of the three hardy and early, and good for the purposes of a black raspberry. The Gregg has not been tender with me. It stands the climate perfectly well, but it wants feeding and care to produce a crop. The Caroline, which has been mentioned, is the only yellow cap I have at present. I had the Golden Thornless, but I threw it out; it had no more taste than a bit of sawdust, and it was very dry. The Caroline is more juicy and better flavoured, but to compare it with Brinckle's Orange, as the catalogue did that induced me to try it, is to compare something good with something merely medium. Brinckle's Orange is one of the juiciest and finest flavoured berries, only it is not hardy enough for our climate. The Reliance may be a valuable berry in this section, and possibly farther north; but in the Niagara district it cannot be grown advantageously. It is a shade larger than the Philadelphia, but I doubt whether it will yield any more, or as many quarts to the acre. The Thwack you could put up and ship to Europe, but I don't think people would eat it when they got it there. I intend to thwack it out of my garden. The Superb I fruited last year, and I must say I liked its quality. It gives good promise, but I have one fear, that the grains would crumble so much as to make it useless for shipping purposes. The Hansell also fruited with me last year. I like its flavour, but, as Mr. Hilborn said, it is very like that of the wild raspberries. But I like the flavour of the wild raspberries too, and if the Hansell will prove to be hardy and a good cropper, it may serve as a home berry, but I think it will prove to be too soft for shipping long distances.

Mr. WRIGHT.—I have not tried any of the new varieties. The Cuthbert is the leading variety in my district. All our raspberries, however, suffer from winter-killing. Last fall I got some of Brinckle's Orange; they grew about three inches, and strange to say they came through the winter all right, and have some berries on them now. The snow covered them all winter and entirely protected them from winter-killing.

Mr. DEMPSEY.—I have tested some of the new varieties. As to the Hansell I am not surprised, after fruiting it, that Mr. Hansell sympathized with it when he found that it had such a struggle for its existence. It sends up sprouts in all directions as far as two coals from the original plant. In fact it lives principally under ground. The berries you could not tell from the raspberries that grow right out in the fields. That was the result of my experience last year. This year I have had them ploughed down to half a dozen plants, and next year, if they give no better account of themselves, we shall know no more

of the Hansell. The Turner and the Reliance are very good berries, hardy and productive, some improvement on the Philadelphia, and likely to fill the bill for canning purposes very well. The Cuthbert is, strictly speaking, a first-class berry, perfectly hardy, but the one difficulty with it is that it does not show quite fruit enough. It sold well in Toronto last year. Coming to the Blackcaps, I think very little of the Gregg. To begin with, it is tender, the tips of the plant freeze every winter with us. Then the picking girls object to it because they have to pull so hard when picking it. It is not a bright coloured berry, but a sort of tawny black, and I do not care for its taste. I go right back to the Mammoth Cluster to supply my own table, and when you come to pick it it has a great advantage over all other Blackcaps. About three pickings will clean your plant, and the girls prefer it to almost any other variety because they can take off a whole handful at once, and this consideration is important both to those who pick them for a couple of cents a quart, and to those who grow for market. True, the Mammoth Cluster is a little soft, but still it reaches the market in very fair condition. I have most of the new varieties under cultivation, but I am not yet in a position to give an opinion of them.

MR. BEALL. Are you growing Brinckle's Orange?

MR. DEMPSEY. No. It proved so tender with us that we abandoned it. We do not care to give the time to any that need constant protection.

MR. BEALL. Every time I hear Brinckle's Orange mentioned an objection is raised against it that it is so very tender. I do not find it so. In my experience it is as hardy as the Philadelphia, and we get a good crop from it almost every year. Occasionally, like all others, it is winter-killed.

THE PRESIDENT.—Is it protected by a fence where the snow banks up?

MR. BEALL.—No; I have no interior fence, but we always have plenty of snow about Lindsay, which makes a difference, no doubt.

MR. DEMPSEY.—I have seen Brinckle's Orange grown for a number of years in the city of Belleville, and they were perfectly hardy, but they were planted on the north side of a fence—not a tight fence, but a high picket fence—and I never knew any of them to be frozen. There has been a border of Brinckle's Orange raspberries there for ten or fifteen years.

MR. F. MOYER.—I am growing a good many both of the old and the new varieties, and most of them are thriving this year. I am glad to hear Mr. Dempsey speak so highly of the Mammoth Cluster. Those of some of my neighbours appear to be blighted, but mine are full of fruit. The Gregg stands pretty well with me. The Doolittle, I think, is the hardiest I have had so far, and a good bearer. The Golden Thornless is deficient in flavour, but sells as readily as the blacks; and so long as people want them and I can sell them I will grow them. The Cuthbert succeeded well last year, but during the last winter the tips got frozen down about six inches, and I think I have lost half the fruit. A few years ago I thought a good deal of the Reliance, but last year the rust came along and spoiled the plants. I have not heard anybody speak of the Franconia. I saw a large quantity of the berries one time in Toronto when they brought a high price. I have a row of bushes 300 feet long. The Franconia is a good bearer, but I think it was September before I got any berries ripe. Last year I had a good crop, but this summer I expect to get only about half a crop. The Philadelphia is a splendid bearer. The Clarke is not a heavy bearer, but is a healthy plant and a fair cropper. I have one plant of the Hansell that has spread so much that I think I could supply about 500 people with plants this fall. The Turner produces very nice fruit.

MR. DEMPSEY.—The Doolittle is a very fine berry, but the girls object to picking it because they get their fingers scratched. But with the Mammoth Cluster there is no difficulty.

MR. GOLDIE.—The only varieties I have at present are the Philadelphia and Brinckle's Orange. I am a little surprised at the favour shown to the Philadelphia, because I understood that it was considered a very second-rate berry. I find it perfectly hardy and a very fair cropper, only the fruit is rather small; so that my favourite is Brinckle's Orange. Anybody who begins to grow that variety, even if it involves the trouble of taking down the canes and covering them with soil every fall, will not readily give it up. I think the

excellence of the fruit will repay you for all the trouble. It is a good cropper and the berry is fine and large, and of excellent quality.

Mr. BUCKE.—We do not grow a great many raspberries in Ottawa, and we find it necessary to protect them. Of course you cannot do that when you plant large quantities as Mr. Smith does, but it always pays to grow raspberries in your garden. We protect our canes in winter by binding them down with scantling before the frost comes, so that they will remain under the snow. With us the raspberry pays better than the strawberry. Although the wild ones come in in enormous quantities, still the ladies want the tame ones so that they may have something nice and fresh for the table. The raspberry is one of the best paying crops we have in Ottawa.

Mr. CROIL.—The Philadelphia is always strong and healthy. It is the hardiest variety we have, and a first-class bearer.

The PRESIDENT. I quite concur in what Mr. Croil says as to the hardness of the Philadelphia. I was surprised also to hear Mr. Smith say that the Gregg was not hardy in Niagara. I have not seen any evidence of winter-killing in it or in the Cuthbert. The Cuthbert, it seems to me, has not the credit for bearing that it deserves. I think it a very good bearer, and if you take into account the quantity that can be picked from a patch during the fruiting season, I think the product of the Cuthbert will fall very little short of that of the Philadelphia, and the fruit is very much to be preferred in size and flavour.

Mr. DEMPSEY.—What variety do you find best for canning?

The PRESIDENT.—There are none grown in our neighbourhood for canning. In my house the seedlings known as Saunders' Seedlings are preferred for this purpose. But most of the raspberries are consumed as they mature. A good deal has been said to-day about the Golden Thornless. I must say it is not a berry that I care much for, but I have observed that when I have visitors the moment they see them they exclaim: "What beautiful yellow berries!" and I do not like to put people out of humour with anything they like, especially when they leave the better berries for me.

Mr. HILBORN.—We find the Turner a little hardier than the Philadelphia. Shaffer's Colossal with us is not very productive.

Mr. LITTLE.—Another variety I forgot to mention is the Ohio, which is rapidly coming into prominence. Two years ago I got some plants and this year they are a marvel. I nipped them back when they were two feet high and to-day each plant covers about four feet of space. With regard to the Gregg, which is lauded so highly, I don't want to turn against it any gentlemen who favour it, but the truth is it is a very tender plant, and you will get more satisfaction and realize more money from a crop of these four—the Tyler, the Souhegan, the Hopkins and the Ohio—than from any other varieties.

Mr. DEMPSEY.—The question of canning berries is a matter that should not be lost sight of in considering the most profitable varieties. About four years ago we put up a few of every variety of strawberry and raspberry we had in Canada, and when we came to use them we found that the Philadelphia was superior to every other variety of raspberry we had. Previous to that the Turner and the Clark brought the highest prices in the market, but within the last two years there has been more demand for the Philadelphia for canning for winter use than for any other variety. The Turner and the Reliance are both good canning berries, but there is an acidity in the Philadelphia which the others do not possess. We evaporate black caps by placing them on sieves and setting them for about a week in a loft where the air will circulate. We put them in paper bags and throw them aside until we want to use them. Then we just put them in cold water for a while, and when they are taken out you would hardly distinguish them from raspberries just picked from the vine.

Mr. BEADLE.—Have you canned any of Saunders' seedlings?

Mr. DENTON.—Yes, and they are a very superior berry when canned. We have not evaporated any of them. I have no hesitation in saying that the best raspberries I have ever had on my table were Saunders' seedlings, and for canning I believe they will pay well, as some of them are very prolific.

Mr. BUCKE.—I would ask Mr. Dempsey if he sells the fruit canned, or does he sell it for canning?

Mr. DEMPSEY.—I will it for canning. In conversation with our fruit growers around London, I learn that they regard the Philadelphia as the best and the Turner as the next best for market purposes.

Mr. HENRY.—Twenty years ago I selected by grafting the Philadelphia, and the same roots are bearing now. For eight years consecutively I have never lost a crop. The greatest fault in the Philadelphia is that it sets entirely too much fruit to ripen. It might ripen more if we kept the plants well moistureed, but our dry summer is against it. Independent of that fault the Philadelphia bears well, and it is, in my opinion, the best raspberry we have in this neighbourhood for canning purposes. For the table I don't think it is equal to the Cuthbert. My Cuthberts the winter before last were winter-killed. The Reliance I grew for a year or two with some satisfaction, but last year the canes did not grow more than a foot and a half to two feet high, and the stems were quite spotted all the way up and there was some discoloration along them. Previous to that the vines used to grow four or five feet. The berries were large and rather better flavoured than those of the Philadelphia, and you could get a barrel with them in about two thirds the time you would with the Philipphas. This year the vines are growing well; they have already attained a growth greater than the oldest ones had attained at the end of last season. My impression is that with the Philadelphia for a general crop, and the Cuthbert for a special crop, we have as good a selection as we can get. I have several other varieties—the Sonnet, the Hesper, the Brandywine, et c. I do not think much of the Brandywine; it is a very dry berry. I have always had Brimble Orange, and I regard it as a very fine berry. The Caroline I have also tried, and I think very little of it. It is hardy, but the moment you pick it it crumbles.

PRUNING FRUIT TREES.

"The best time to prune fruit trees" was the next subject announced.

Mr. DEMPSEY.—The time to prune fruit trees is when the knife is sharp. That is my general rule; but there are about from six to eight weeks that we never prune, that is when the sap is rising in the tree in the spring. This period varies, but it ranges from about the first of March to the Middle of May, and just as soon as you discover that the sap has reached the knuckles you cease. All pruning depends on the object you have in view. If we want to encourage the growth of a tree we invariably prune it in winter. If we wish to increase the fruit buds we prune in the summer. Thus, we prune for about ten months in the year.

Mr. GOTT.—What tools do you use in pruning, and do you apply any kind of covering to the wounds?

Mr. DEMPSEY.—We avoid as much as possible cutting large branches. In winter pruning it is invariably small branches only that we cut, from the fact that we mostly cut the smaller trees in order to encourage the growth of wood, but in summer we sometimes prune large branches and to those we apply a little grafting wax. Some people use a preparation of shellac. The implements we use are shears, a pruning knife, and a very fine saw. It is very desirable to have the shears sharp so that they will make a clean cut.

Mr. GOLDIE.—In pruning in summer to retard the growth of wood, would it not answer to cut a portion of the roots? I find that when I cut a large branch in summer it invariably leads to the death of the tree.

Mr. DEMPSEY.—I have never observed that danger except when we cut the limbs during the two months I spoke of when the sap is rising. But that is the only time I apprehend danger from pruning. Anything that will check the growth of the tree will encourage the production of fruit. English fruit growers sometimes tie down branches and reverse their growth with this object.

Mr. CROIL.—I have always found, like Mr. Goldie, that the cutting off of a large limb so hastens the death of a tree that I have hesitated and wondered whether it was not better to leave the limb on the tree.

Mr. DEMPSEY.—That suggests another point that we should observe in pruning. Two branches form a fork on a tree. The top branch is perhaps the smaller of the two, and that is the one we wish to remove, but we ought invariably to remove the lower one.

because if we cut the upper branch it will be almost impossible to prevent water getting into the stub and so destroying the tree. On the other hand, if we cut the under branch, the upper one is encouraged to grow and protect the wound, so that no water can penetrate it and it heals rapidly.

MR. GORT.—I think that the lighter the pruning the better. We like to prune the tree from its infancy, so that there shall be no necessity to cut off large branches; we prefer thumb and finger pruning—the removal of little twigs which the plant does not miss. But this very severe pruning we think is objectionable.

MR. WRIGHT.—In our district we are obliged to prune, very often at the very time that Mr. Dempsey says we ought not to do it. In the spring of the year, just as soon as the sap begins to move, I go round with a saw to remove any branches that have been killed. I examine every row, one after another, looking below for borers, and looking at the top of the trees to see if any young branches are starting that are likely to be injurious, and remove them with my thumb and finger or with a sharp knife. I do this in the spring of the year, and I never find it necessary to saw off any large branches at all.

MR. BEADLE.—I presume that all our fruit-growers will agree to this maxim, that in our climate especially it is desirable to prune a tree gradually as it grows, from the time that it is first planted out, so that there may be no necessity for cutting off large branches after the tree has grown. The removal of large branches in our climate is very apt to be injurious to the tree, even when the wounds are covered with shellac or grafting wax. You may not succeed in getting a large wound healed before decay sets in, and when that once appears, it cannot be arrested until it produces disease and death. No invariable rule can be laid down on the subject. You would not, for instance, adopt the same mode for the Northern Spy as for the Rhode Island Greening. You have to study the habits of each tree, and adapt your pruning to its style of growth. But it is wise to follow the rule that has been laid down, namely, to do your pruning while the twigs are small. Do it in the early spring and in the early summer when you find a shoot coming out where it ought not to grow. Let the branches be kept sufficiently far apart to admit of the full circulation of air and light, not too dense or too thick. I think I have seen orchards more injured in our part of the country by injudicious pruning than they would have been if left entirely neglected. I have seen beautiful young orchards, which to-day ought to be bearing splendid crops of fruit, actually ruined by the owner attempting to force the trees into a certain form which he had fancied, and cutting away until each tree consisted of great, long, bare limbs, with a few twigs and leaves. The tree needs to be covered with foliage all the way down to the main trunk. This will keep it in a healthy condition, and so long as you do not allow the branches to crowd so as to shut out air and light, you will get plenty of good fruit. If the foliage is allowed to become too dense, the fruit will be obliged to grow and ripen in the shade and will be deficient in flavour. This is especially the case with the Northern Spy, which must have air and light to enable it to develop its flavour properly. The same rule will apply to pear, peach, plum and cherry trees, although it should never be forgotten that your mode of pruning should be varied to suit the habits and style of growth of each tree. The cherry tree, for instance, is one that requires very little pruning. I doubt if you ever need to use a saw or a knife to the cherry tree; you can do all the pruning it requires with your finger and thumb—just keep in mind that the less wounding you give a tree the better.

MR. HENDRY.—For nearly thirty years past I have been engaged in the growth of trees in a small way, and this subject has always been one of great interest to me. The remarks made by our worthy Secretary meet my views exactly. The proper time for pruning, I am satisfied, is a very important consideration. To prune a tree in the winter time, I am aware, brings out a very large growth in the incoming season. To prune it late in the fall is somewhat dangerous, as the frost may come before there is sufficient growth to heal the wound, consequently I have done very little pruning in the fall. I prefer to do it in the winter or the very early spring, especially in the case of young trees, whose growth I wish to promote. By winter pruning we gain in the wood of the tree; by fall pruning we gain the fruit. The pruning in this neighbourhood has been in my opinion, utterly ruinous to the trees. I call it "slashing," cutting down everything that is not as big as the trunk itself. The result is that the trees are stripped of their foliage,

leaving only a few long branches with a bunch of foliage at the end of each. My object in pruning has been to trim the edge of the tree so as to admit the sun; but much of the pruning I have seen has evidently been done on the hypothesis that the sun comes from below. I have trained my trees down, pruning from the top downwards, so that they are low, with the branches wide spreading and in layers one above the other. I am satisfied from my own experience, that with proper care and attention we could have from all, or almost all, of our apple trees, a fair crop every year instead of every two years. I have always claimed that our trees have altogether too little foliage. It is just as necessary that a tree should be fed through the medium of leaves, as that we should have fresh air to purify the blood that passes through our lungs; and if you deprive a large apple tree of its foliage, you certainly interfere with its growth. My pruning is done with a very fine saw, about as wide as my little finger, thin at the back and a little thicker at the teeth. When I wish to remove a little limb that I cannot reach well with the knife, the saw does the job very nicely without injuring any other limb. I leave all the little points that I can near the trunk of the tree. Those growing inwards and upwards I almost invariably cut away, else the tree is liable to be overloaded with fruit. I am just as careful of a little twig as I am of the point of a branch. The point of a branch will grow again, but when you denude a tree at the centre, where the best fruit grows, it is very difficult to reclothe it again. My care has always been to get the tree as nearly balanced as possible. The fruit grown on the upper side of a limb is much more likely to fall off than that grown on the under side or where the twigs come out from the trunk. June is my month for pruning, when the leaves are a little grown and the fruit just formed. Then it is easy to relieve the tree of some of its superabundant weight of foliage.

Mr. DEMESEY.—Mr. Thomas Rivers recommends pruning to be done invariably in the month of September, and he recommends root pruning as well as top pruning. In my first experiment of Thomas Rivers' system, I killed the tree. The next time, after reading it again, my experiment was a perfect success. In root pruning in the month of September, you must be careful to remove the foliage, and you will avoid all trouble. I found that this gave me a splendid growth the following season, and some of the finest samples of fruit I ever grew. There is so much to be said on this subject of pruning that we cannot compass it in one or two hours' discussion—we should require a week.

Mr. BUCKE.—If you prune the roots say three feet from the base of the tree, making a trench around the tree, and fill the cavity with fine, rich earth, you will find that the next season there will be a growth of small fibrous roots, which will be very beneficial to the health of the tree.

Mr. HICKLING.—My experience is that June or July is a very good time for pruning, either by pinching, as we call it, or cutting off limbs. But for large trees I think February is, on the whole, the best time. The plum trees and cherry trees especially, this season, since the buds came out, give evidence of the benefits of pruning at that time. They seem to have obtained greater growth and vigour, and to be likely to produce a larger amount of fruit. The trees are now well loaded with fruit.

THE AUTUMN MEETING.

The President here announced that the Directors had decided that the Autumn meeting of the Association would be held at Barrie on Wednesday and Thursday, the 1st and 2nd of October next.

THE CURCULIO.

Mr. BEADLE.—I move that the President be requested to answer this question by Mr. Leslie: What does the curculio imago state feed upon? Will spraying the plants with Paris green be of benefit?

The PRESIDENT.—The curculio in the perfect state does not eat very much. In fact, there are very few insects that eat much in the perfect state. Of course, there are exceptions, such as the potato beetle. But there are some insects which do not eat any.

thing at all in the perfect state, for they have no mouths. Their only purpose is to perpetuate their species. However, the curculio lives longer than many insects, and it does feed. This year I learned a fact about the curculio which has never been observed before. In collecting moths, those interested in insects very often put sugar or molasses on the trunks of trees, and then visit the trees at night with a dark lantern to secure specimens. Beginning that work early this season, I was surprised one evening just after dark to find two specimens of the curculio feeding on the sweets. This is a habit I never noticed before. I caught one of them and found that it was a genuine plum curculio. I know that the curculio feeds on green plums, and eats holes in them; but it eats very little, and for that reason it is very difficult to say why Paris green sprayed on the trees seems to be of so much benefit. We are not yet in a position to say how much benefit it is; but I have tried it myself, and I am quite satisfied it is a benefit. It seems to prevent the curculios from depositing their eggs on the trees so treated. By syringing the plum trees with Paris green in the proportion of a tea spoonful to a pailful of water about the time the curculio deposits its eggs we can save the crop to a considerable extent. I would like Mr. Beall to give his experience on this subject, as he has used this remedy more than I have.

Mr. BEALL.—I have used Paris green on plum trees for three years past, and I am satisfied that it prevents the curculio from doing mischief to a great extent. I cannot tell how it does. Last year I had two trees standing side by side, and I thoroughly syringed one and not the other in order to test the effect of Paris green. I gave the same tree a second dose about a week afterwards. The result was that the tree to which I had applied the Paris green was almost entirely free from curculios, probably not one plum in a hundred being affected, while the fruit on the other tree was nearly all destroyed. The year previous I had treated the other tree in the same way, but not so thoroughly. I only applied the Paris green once; yet that tree appeared to have a considerable advantage over the other, but not nearly so much as the one which had the second dose. I applied it just when the blossom was dropping, and then again about a week or ten days afterwards.

Mr. ALLAN.—I have used Paris green for the curculio since 1878, and the caution I would give is not to use too much. It is a rather dangerous thing to sprinkle around the trees in large quantities—dangerous to the trees. A tea spoonful of Paris green well mixed in a large bucketful of water, will spray from six to ten trees, according to size. In a dry season like this I fancy one spraying would be quite sufficient. If there comes a heavy rain shower it might be well, perhaps, to repeat the dose. I have found this treatment to be quite efficient. In a large orchard of a thousand plum trees we sprayed every plum tree except four, which we purposely left at different points in the orchard. On these four trees the fruit set very well, but when we came to pick it there was scarcely a whole plum to be found: they were stung right and left, whereas on the other trees all around them the crop was completely saved. I use a fine force pump for spraying.

Mr. CROIL.—I can quite appreciate what Mr. Allan says about not giving the trees too strong a dose. I have tried arsenic, which I saw recommended in the Iowa Horticultural Society's Report for the destruction of all insects. The arsenic was to be mixed in water in the proportion of one pound to 200 gallons. I think I applied too much, for I killed the trees entirely. But I believe it will kill all worms (laughter): it is claimed that it will not leave a canker-worm, a codlin-worm, or a tent caterpillar.

The PRESIDENT.—Did the arsenic dissolve?

Mr. CROIL.—I boiled it. I took about $2\frac{1}{4}$ ounces to 30 gallons of water.

The PRESIDENT.—That is an advantage that the Paris green has over the arsenic—that it is insoluble. There is no doubt that the insects which eat the poison die from the effects of it; but the point we have been discussing is, do the curculios eat enough of the green plums when they are sprayed with Paris green to be killed by them? I think it is evident from Mr. Allan's experience that they do not. If the curculios had been killed by the Paris green there would not have been enough left to destroy the fruit of those four trees. The influence of Paris green must be counted for in some other way.

Mr. ALLAN. That was the conclusion I myself came to. I thought it was possible that the curculios were driven away by some odour in the Paris green which we do not

absent. One time, however, I did think I noticed them feeding upon some fine, gummy substance on the leaf and the fruit, for I noticed them travel over the plum and the leaf, and remain for a moment at spots here and there.

At about 12.30 the Association took recess until 2 o'clock, and on resuming, the question of "New Varieties of Blackberries" was taken up for discussion.

NEW VARIETIES OF BLACKBERRIES.

Mr. LITTLE.—I got the Early Harvest, but it has been completely killed down every winter. The next I got was the Western Triumph. It was quite successful, and showed a full crop of berries. The Agawan is as fine a variety as you can have for home use; how it will ship I cannot tell you. It is a berry that is sweet to the core. Stone's Hardy will stand the winters, but I have not tried it yet. The Snyder I have had for three years. It is tender, and is occasionally winter-killed, and the fruit is not very large. In a market fruit of any kind you require something attractive to the eye. The Agawan is good for size, though not so large as the Kittatinny. But the Kittatinny will not stand the winter as well as Wilson's Early, and I have discarded it.

Mr. MITCHELL.—I have had a little experience of the Wachusett's Thornless. I think little of it; the berries are small, and it is not altogether worthless either. I was given to understand that it was a very hardy variety, and I thought I would test it thoroughly. So I planted the bushes at the north-east side of my stable, where they were much exposed to the wind, and did not cover them in any way; but they all came through the winter green to the tips. The variety has that good quality, that it is hardy. With me the Wilson is very tender, having been killed to the ground. The Kittatinny is even less hardy than the Wilson; yet for the amateur I would give the Kittatinny the preference over every other.

Mr. GOLDIE.—The Kittatinny is the only variety I have ever tried. I got it when it first came out, and grew it for a few years, but it was so killed down and produced so very little fruit that I discarded it. I think that probably the ground I grew it in was too strong and succulent, and the vines were so stiff and strong that I could not bind them down to protect them.

Mr. MOYER.—I cannot say much about the blackberry, as I have just begun to cultivate it. A year ago last spring, I got Wilson's Early, the Crystal White, the Texas Hybrid, Taylor's Prolific, the Snyder, and Stone's Hardy. All of them, except Stone's Hardy, have been frozen down to the snow line, but it is healthy although it has received no protection. I cannot speak of the fruit yet.

Mr. BEADLE.—I would not advise our friends to trouble themselves much about the Crystal White. I have tried it thoroughly. The plant itself is not healthy; it won't stand anything, either summer or winter. It seems to succumb to every possible disease that blackberries are subject to, and this spring I turned the whole of it under. The fruit is not crystal white by a long way; there is no crystal about it; it has a very dirty, smutty look. In fact, there is no good quality in it that I know of to recommend it. I have not tried the Texas Hybrid. I look upon it as a humbug, and I never took the pains to get it.

Mr. J. Y. SHANTZ.—I only grow one variety, the Snyder. It seems to stand the climate very well, but has fruited very little. The berries are not very large, and are slightly acid.

Mr. BEADLE.—Has anyone tried Taylor's Prolific?

Mr. WRIGHT.—I have tried it, but, like every other variety of blackberry I have tried, it has died down in our climate. I have given up the hope of doing anything with the garden varieties, and now I have taken, to the woods, to see what I can do with the wild ones.

Mr. HENDRY.—Amongst others, I ordered the Snyder and the Taylor; but, instead of getting the Taylor, I was sent the Kittatinny. It grew a little while and then died

down. Last summer it grew pretty well, but this spring the canes were all killed. They have since started again, but I don't think I will get any fruit. The Snyder is doing pretty well, and, though the quality of the fruit is not everything one could wish, when left on the bush until it is really ripe, it is a pretty fair fruit. The bushes this year have not died down at all, and now show a good prospect of a good crop.

MR. GOTTE.—One of the best berries is the old Kittatinny. I think we have nothing of equal value among newer varieties. The Snyder is considered to be very valuable. Its bearing qualities are good, it is perfectly hardy in our section, and the crop of fruit is enormous. The berry is not so large as that of the Kittatinny, but it makes a very fine basket of fruit.

MR. GEDDES.—I have not cultivated blackberries very extensively. All I have tried to grow are the Wilsons I got from the Fruit Growers' Association some years ago, and I have no fault to find with them. The plant is soft and tender, it is true; but I have had a lot of fine fruit year after year. Unless you give them care, the bushes will run all over your place, but if you attend to them properly, they will repay you for all the attention you give them.

THE PRESIDENT.—About London I find the Wilson quite tender: it kills down regularly. The Kittatinny is also tender, but not quite so much so as the Wilson. But a gentleman living outside of London on a northern slope, who got a plant from the Fruit Growers' Association at the same time that I did, is able to raise berries every year to bring to market. This success I cannot explain, for he does not protect his plants. It must be something in his soil or location that is favourable to the hardening of the wood to carry it through the winter. The Snyder I have grown for two years, and I find it to be quite hardy, but the fruit is not equal to that of the Wilson. Still, if that is the best we can get of the hardy varieties, I suppose we shall have to be content with it.

THE PRESIDENT then announced the remaining subjects for discussion, and suggested that, as there would not be time for them all, the Association should select one or two.

It was decided to take up grapes and roses.

GRAPES.

The subject of "Grapes, the best varieties, pruning and training," was then opened for discussion.

MR. S. SLANTZ.—We always have a few grapes, but, owing to winter-killing, we obtain very little fruit. We have the Concord, the Isabella, the Delaware, which is a very slow grower, and the Champion.

MR. MITCHELL.—I grow nearly all the staple varieties, and I find that all, even the Concord, are better if laid down every year before winter; they do not even require to be covered, if you only lay them on the ground they will come through all right in the spring. The hardiest varieties like the Concord and the Hartford will not make so good a start or grow so freely if left standing, even if they are not killed. The Delaware, although small, is one of the very best, and I think Mr. Shantz will find the objection as to slow growth removed after a year or two when the vine gets properly rooted. I left my grapes on the trellises, and I lost all except an occasional bunch. Some of Rogers' grapes are excellent, but very subject to mildew.

MR. WRIGHT.—In our section grape growing is yet in its infancy, and the last two seasons have been so unfavourable for ripening that I cannot speak very positively with respect to the several varieties we have tried. With us the cold-resisting qualities of the vine are not so important as early ripening, because it is absolutely necessary for us to cover every vine we have. Among our successful varieties I must place the Champion first. It is not of very fine quality, it is true, but it has a good colour, and where you cannot get anything better, it is a passable grape. The Hartford ripens early and ripens every year, though the greatest objection to it is that it falls from the cluster. The Delaware, for some reason or other, I have never yet been able to grow. With others, however, in our locality it has succeeded; we have had it on our tables at local exhibitions, fully ripe, too. The Concord grows well with us, and ripens in ordinary seasons. It did

not ripen last season or the season before, but they were exceptional. The Agawam ripens and is a fine large grape and sells well. The Lady, which has been condemned in the *Horticulturalist*, grows successfully in our neighbourhood. The Martha, too, has been on my table, fully ripe. Several other varieties have been lately introduced, and whether they will ripen I am not yet able to say.

MR. MITCHELL. I wish particularly to recommend one grape which I overlooked just now, the Worden. It is very hardy and well flavoured, better than the Concord, and ripens a week or ten days earlier.

MR. WRIGHT. I have the Worden, and I expect to fruit it this year for the first time.

MR. GOTT. The Martha is a good white grape, and the Lady, as we have fruited it on our grounds, is something excellent. The fruit is almost transparent, and has a very fine flavour. The Delaware has still a high reputation, and is always in good demand in the market. Among the varieties of Rogers' No. 9 and No. 19 are good and profitable. Another red grape, the Brighton, is a superior variety; its flavour is excellent, and the bunches are attractive. Amongst the black ones the Concord remains the leader, either for family use or for market. The Champion is not very much grown; Rogers' No. 43 and 44 are both excellent varieties. Moore's Early and the Worden we find well spoken of. We find that our grapes are becoming more subject to disease than formerly. The principal troubles are mildew and a kind of dry rot that attacks the berry. These blights are so disastrous that last season our crops were almost entirely destroyed. This season, in accordance with a suggestion our President made in the *Horticulturalist*, we have tried sulphur, distributing it amongst the vines and over the leaves. We think this substance will likely counteract this disease, and if it does, it will be a great advantage to us.

MR. HENDRY.—I have been able to do very little in grape culture. I have bound down the vines and tried every plan I could think of to save them from winter-killing, but it seems entirely useless. The only varieties I can grow are the Champion and the Delaware.

MR. COPELAND. My experience corroborates that of Mr. Hendry. I have had the vines frozen in June and September as well as in winter, and I have given up the attempt. I don't think it is worth my while bothering with them.

MR. MOYER.—I am afraid I have to take the same line as the last two gentlemen. Ten years ago I started grape growing, and tried the Concords, and the vines are there yet, but I have never got a crop of grapes. I afterwards tried the Hartford Prolific, the Delaware, the Prentiss, the Worden and other varieties with the same result. The Champion I have been able to do better with, and I would recommend it. In fact, I have tried every variety that I thought hardy and early enough for our climate, but never succeeded in getting fruit. I have 150 plants which are all looking well, and I am going to persevere for some years more.

MR. HILBORN.—The Concord, I believe, is the most satisfactory grape we have in our part of the country. The Martha is a good, hardy grape, but is rather small. These two and the Delaware are doing fairly well with us. None of the Rogers' varieties do well with us; we have never been able to obtain a crop of fruit; if the vines set a crop it drops off; so last fall we took out 150 plants.

MR. S. SHANTZ. In this neighbourhood some years ago there was considerable complaint about a bug that ate out the grape vine buds in the spring, and destroyed all chances of fruit for the season. Do you know anything about that?

THE PRESIDENT.—I have had that matter brought to my notice very often, and I have been a little surprised to see how patiently people allow this bug to have its own way. It is called the grape-vine flea beetle, and it feeds on the buds as soon as they begin to swell. If the vines are syringed with Paris Green and water, it will kill these beetles. If you shake the vines over a pan of water with a little coal oil in it they will drop into that and die. Later on in the season they lay their eggs on the foliage of the vine. They may be found at that time in the form of little black larvæ, varying from a quarter to half an inch long, with six small black feet in front, and they eat portions of the centre of the leaves. These larvæ can be got rid of by syringing with hellebore and water, or Paris Green and water. If allowed to mature, they will drop to the ground,

take the chrysalis form and appear in the fall as beetles. Then they will hide during the winter, until the spring gives them a chance to get at the grape vine buds again.

Mr. GOTT.—Is black the prevailing colour of this larva?

The PRESIDENT.—Yes.

Mr. GOTT.—Some of ours are brown.

The PRESIDENT.—They shed their skins several times during their growth, and when they are first out of the old skin, before the new skin gets its ordinary colour, they have a brownish hue. But they are generally described as black larvæ.

Mr. BEADLE.—I see that people up here think that the Champion grape will stand the climate and give them some grapes to eat, and perhaps they may find, as I did, that it is not an unprofitable market grape. I have twenty-two vines of that variety. A year ago last summer one of my men was going to Toronto, and he took the grapes from the Champion vines with him. When he came back he gave me \$72. I asked him, "Where did this come from?" He said, "From the Champion grapes: I paid my passage to Toronto and back, paid for picking the grapes, paid the freight, and I have this much money left." I thought that was doing pretty well with twenty-two vines; and I think if you people in this neighbourhood can do as well as that, you will be very well satisfied with the Champion.

Mr. HILBORN.—The Champion with us is of no value whatever. It does not ripen, and the fruit drops off.

The PRESIDENT.—I had the same experience with my Champions last year, but I thought it was exceptional. Have you observed that more than one year?

Mr. HILBORN.—Yes, for three years.

The PRESIDENT.—I should be sorry to be limited to the Champion in such case. I should want to import all the grapes I wished to eat, as I think the Champion is a very inferior grape. About London we can grow quite a number of different grapes. The Concord is one of our principal varieties, but for my own taste I am rather partial to the Clinton. It is sometimes despised, like the Wilson strawberry, but to those who like pleasantly acid fruits there is nothing nicer than a well ripened Clinton. It is about the only grape worth canning or preserving, as it possesses that amount of acid which is required to make canned fruits acceptable. The Martha is well received. We also grow the Rebecca; but it is a poor grower, and the bunches are small, and you have to wait a long time before you get much for your trouble. Some of the Rogers' varieties succeed very well—No. 4, No. 9, No. 3, and No. 19; but the Salem has been a failure for a number of years. The mildew attacks the vines, and what it does not destroy, the rot carries off. I have tried the Brighton, and it succeeds very well indeed. I think I have nearly all the new white varieties, but I have not fruited either the Pocklington or the Prentiss. I have the Lady, but have not fruited it yet. The Hartford Prolific I do not care much for and have several times determined to root it up; but last year, which was a very poor year for grapes, I was very glad I had the Hartford Prolific, as it was the only grape that gave us any fruit. I have had some trouble in my vineyard from the phylloxera, especially on my Concord. They are now turning quite yellow from the attacks of this pest. I hope it is not going to spread to any great extent. If it does, it will be a very difficult thing to deal with.

Mr. BEALL.—I am glad to hear you commend the Clinton. In my opinion it is a most excellent grape when ripened. I would like to have your opinion of the Chippewa.

The PRESIDENT.—I have it, but it has not fruited yet.

Mr. BEALL.—I think you will like it better even than the Clinton. It ripens early, grows well in the bunch, and possesses great uniformity of flavour.

Mr. BEADLE.—Did you get your Chippewa vines from W. H. Read, of Port Dalhousie?

Mr. BEALL.—No, I got them from a neighbour who got them from Mr. Leslie. I believe Mr. Leslie gave up selling them because he found that in many places they were attacked by mildew. I have had these vines for twelve years, and I never was troubled with mildew until last year or the year before. The berry is about one-third larger than that of the Clinton.

Mr. BEADLE.—I asked Mr. Beall where he got the Chippewa vine, because I think

and I are thinking of two different plants. The Chippewa grape vine that Mr. Read told was a wonder that he found growing on the banks of the Chippewa Creek, and he called the grape by that name, but it does not correspond to Mr. Beall's description at all. It is no larger than the Clinton grape, and the bunch is not so large as that of the Clinton. It is also harsher in quality, and unless for producing colouring matter, because it is very dark, I cannot think the Chippewa is good for anything. I merely mention this to put people on their guard against the grape I know as the Chippewa.

The PRESIDENT.—Mr. Beall's description corresponds with that of a variety called the Janesville, and that may be the grape he speaks of.

Mr. BEALL.—Mr. Leslie says he remembers the grape, and he is perfectly satisfied it is the Chippewa.

Mr. CROIL.—I am glad to hear the Clinton well spoken of. I used to think the Clinton was good for nothing but to make wine of; but I have changed my mind. I do not cover the vines and do not find it necessary to do so.

Mr. BEADLE.—The Clinton is the best grape for cooking purposes that I know of; and I want to tell you something about the Clinton grapes that you should get some of your good wives to try. When they are thoroughly ripe, put them into a vessel and heat them slightly. Then take them and strip the pulps out, throwing them into one dish and the skins into another. Then put the pulp into a kettle and heat it sufficiently to liquify it, so that it can be run through a colander, and the seeds taken out. Then mix the skins with the pulp, and put away. Sweetened to the taste, it makes one of the most delightful dishes for winter use that I know.

Mr. DEMPSEY.—I like the Worden grape as an early grape. The fruit is large, and of good flavour, but it has the fault of most of that class of grapes, that of shedding its fruit from the bunch when it is very ripe. The Concord, the Beaconsfield, or the Champion, all to a certain extent do the same. But the Beaconsfield is only fit to eat, I would grow in preference to any other variety. It comes early, and people will buy it. The Brighton pays well; with good soil and good culture it is very prolific, and it is quite popular for table use. In my opinion, it is fully equal in flavour to the Delaware. You must not, however, undertake to keep it for any length of time after picking it, for it loses its flavour very soon after coming to maturity. There is nothing that I know of equal to the Delaware for retaining its good qualities. It also weighs well, sells well, and always commands a high price in the market. I have some new varieties that appear to be succeeding, but I cannot speak very favourably of them. I have some of my own, and some of Saunders' which I have not fruited yet. For home use, I use my No. 5. It is a red grape, resembling Rogers' No. 3, but it is a little earlier. They tell me in Quebec that it is a little earlier than the Champion, and I hope it is going to be a good grape for our northern climate. I have not propagated it, however. The Iowa is a profitable grape; it produces a fine bunch and a good seed berry, the flavour of which is all we could ask, but it is rather late. It does not mature more than one year in five in our neighbourhood. What we want is something that will ripen every year. Anything later than the Concord is of little use for us to cultivate. If I were going to plant another vineyard, I should plant largely of the Delaware, some Champions, owing to their earliness, and Rogers' No. 3, No. 4, and No. 2. These are the only numbers of Rogers' that I should care for; the others show indications of milfew, and some fail entirely, as No. 34 and No. 19. No. 44 is doing pretty well yet; but the Salem is a perfect failure. I have not had a berry from it for five years. Rogers' No. 1 is too late for our climate. I would confine my collection to a very few varieties. The Rochester and the Monroe are very fine grapes for amateurs. Most of Rickett's do not come up to the specimens Mr. Rickett has been exhibiting. We have not fruited the Jefferson yet, but I have seen it fruited, and was disappointed with it. The Lady Washington is small and of no value. The Vergennes is a very profitable grape; it matures early, and gives very little trouble until spring.

Mr. GORT.—I was sorry Mr. Dempsey did not tell us a little about the Burnet. I have fruited it myself, and the bunch is very fine, but it is liable to rot, and for that reason we have lost a large part of the crop. If I could save it from that, it would be very valuable. We have a red grape that we think a great deal of, called the Walter. The bunch is large and compact, and the berry of fine flavour.

The PRESIDENT. Isn't it thick in the skin?

Mr. GOTT.—It is rather.

The PRESIDENT. Hasn't it a "foxy" flavour?

Mr. GOTT. Yes, but still it is a very good grape. We would like to hear from the Secretary about that new and promising white grape called Jessica.

Mr. BEADLE. Mr. Dempsey said the Vergennes was an early grape. I have fruited it three years, and with me it is not so early as the Concord.

Mr. DEMPSEY.—It ripens with the Concord.

Mr. BEADLE. I just wanted to avoid the impression getting abroad that it is an early grape. My crop of Concords will get ripe before it will. But still, it is a good keeping grape. A friend of mine kept it until February in very nice condition indeed. The stems had got dried, and the fruit was very fine; in fact I thought the keeping process had improved its flavour. My friend Mr. Gott has asked about the Jessica. It will make its own record. The public have got it, and they will soon be able to speak of it.

The PRESIDENT.—With me the Burnet has fruited very well, and ripened well, though a little later than I expected. I would not call it a heavy bearer; its bunches are not so well set or so full as those of the Concord. The Iona does not ripen with me one season in ten; but it is a delicious grape when ripe. As for the Walter, it is not a grape that takes my fancy.

Mr. BUCKE.—The Burnet is really one of the finest grapes we have. It grows heavy bunches, with short stems, and the fruit has an excellent flavour. Its only drawback is that it has some small seedless berries in the bunch; but otherwise it is a perfectly clean, healthy grape, and never mildews. I think, however, that the Brighton will be found to be the best general grape for amateur cultivation. It produces a very fine bunch, and it has this advantage, that its fruit is red, whereas the Burnet is black. Red grapes always command a better price in the market than black, and the whites are even preferred to the reds.

Mr. CROIL.—The reports of the Burnet are somewhat contradictory. Mr. Bucke says it is one of the best in his locality; I have no hesitation in saying it is one of the worst in ours.

Mr. DEMPSEY.—I was going to say something about the Burnet, but I obtained an account of its failure in so many parts of the country. There is no grape with a better flavour than the Burnet; but it has its faults. Sometimes the bunches are thin; but last year was one of the most unfavourable years for grape culture I have ever experienced, and the Burnet carried a heavier crop than any other variety we had—heavier than even the Concord; and the grapes are far superior to the Concord in flavour. It is true they suffered considerably from the frost, but they were about ripe when the frost came. They brought a high price in the market—20 cents a pound. But I would not advise any man to grow the Burnet grape until he knows how it will succeed in his locality, for it fails in many sections of the country.

Mr. GOLDIE. I have heard nothing as to the best situation and soil for growing grapes. In planting the vines alongside of a fence, I have never been able to get them to fruit: the sun in the early spring seems to force the growth too rapidly. I believe they will succeed better if planted in an open space in a rather retentive soil, with no fences or trees near them. I should like to hear Mr. Dempsey's opinion as to the best location.

Mr. DEMPSEY.—We are growing grapes on the south side of the Bay of Quinte, on a northern descent, and last year they matured very well and set their fruit nicely. We also grow them on the opposite side of the bay, with a south-eastern exposure, and they ripened perfectly last year. Delawares, Concords, Wordens, Burnets, and some varieties that were later. If I were going to select a location for a vineyard I would take an open field, as nearly level as I could get it, where there is good drainage. I would prefer the side of a hill with a south-eastern exposure but for the expense of cultivation. I have never seen better grapes than some grown on shale soil by Mr. Graham, of New Edinburgh, near Ottawa. But we plant on sandy or clay or any other kind of soil, so long as the location is good.

ROSES.

Mr. BEADLE was then requested to say a few words on the subject of "Roses, their Culture and Management." He said:—The best white rose, take it all in all, is, I think, the *Madame Plantier*. It is not a perpetual. We talk a great deal about perpetual roses, but after all there is very little perpetuality. The rose I speak of blooms once in the season. You will find it perfectly hardy, especially if you have snow enough to keep it covered, a double rose, and a very profuse bloomer. It is scented too, though not the highest scented rose we have. The *Provence Rose*, commonly called the *Cabbage Rose*, cannot be beat by any other rose of its colour. It is hardy, is very double, very sweet, has a bright rose colour, and is a very full bloomer. Perhaps I am somewhat partial to it, because it is one of the first roses I ever saw. It does not like a cold wet soil, but a warm dry one; bearing that in mind when planting it, you are sure to be pleased with it. Then, there is its companion, the common *Moss Rose*, which is just that same old *Cabbage Rose* covered with moss. You will remember the old fable about it, so prettily put into poetry that in order to add a new grace to the rose some kind hearted fairy clad it with moss. It is one of the most difficult articles to buy. You may write to fifty nurserymen and fail to get it. It is a much prettier rose than the *Princess Adelaide*, a much more mossy rose; the whole stem is covered with moss. Another rose of that same class known as *George the Fourth*, a very rich coloured, dark red rose, is one that I like very much. It is one of the hardy summer roses. There are two yellow roses that I should name, and it is well enough to have them both. *Harrison's Yellow*, which blossoms first, before all the roses, is semi-double, and of a light yellow colour. Following that is the *Persian Yellow*, which has a finer leaf, and a somewhat smaller flower in point of size than the *Harrison*, but it is more double and has a deeper yellow colour. It is perhaps of the two the prettier, but I think you should have them both, because the *Harrison* is about done by the time the *Persian* begins to open. Many persons are anxious to get climbing roses, and if you look at my article on the subject in the last *Horticulturist* you will find there all that I know upon it. I see some one has it that the *Boursault Rose* is a double. It is the hardest climber we have got. It is an *Alpine Rose*, and is called *Rosa Alpina*, having been found in the Alps. It is not usually found in the nurserymen's list, because people have been in the habit of turning up their noses at it, because it is only semi-double. It is not so handsome as the *Queen of the Prairie*, but it will grow where the *Queen of the Prairie* will not live. I mention it because I hope that some of our hybridizers, like Mr. Saunders or Mr. Dempsey, will take it in hand and see if they cannot bring it to be double in form. If I could get it as double as the *Queen of the Prairie* I would give \$500 for a stock of it. It is a very dark red rose. It has no scent, and I do not know of a climbing rose that has any scent. They say that the *Gem of the Prairie* has some scent. It is a hybrid, however, and it has lost a good deal of its climbing property by being crossed. When you come to the *Hardy Perpetual Roses*, there is an army of them. Among them *General Jacqueminot* has been a great favourite. It is not the most double, but is one of the most brilliant and showy of its class, its colour being almost vermilion. Next to that perhaps I should mention the *Xavier Olibo*, or the *Duc de Rohan*. These two roses are very dark, almost velvety in their appearance. With me they kill badly almost every winter; but that does not matter much. The following spring they throw up shoots and bloom well. The *John Hopper* is perhaps the next best. It has the true rose colour, is very double, is a profuse bloomer, and blooms twice in the year more certainly than any other. In order to secure a good autumn bloom you should prune back the bushes vigorously as soon as the first bloom is done. *La France* is a beautiful rose; but you must be on your guard, for there have been two roses sent out under this name. One of them is a hybrid tea, and it is the only one I care about. It is one of the loveliest roses we have got, but it is tender and needs great protection. If you take it up in time, and put it in your cellar, and bring it out again in the spring you will derive great satisfaction from it. That is one of the strain that Mr. Bennett started in England. There are two or three others that he has sent out that are about equal to it, but none of them is any better. The *Baroness Rothschild* is one of the finest of the H. P. roses. It is rose coloured, with a peculiar satiny gloss and a finely cupped form.

None of these H. P. roses are quite hardy; they all kill back more or less; but that is not a very serious matter, for a little judicious pruning does wonders. I do not want so many flowers; so I prune back my roses to lessen the number of flowers, so that those I do get will be as near perfection in size and form as I can have them. The old La Reine is a very fine rose. It has this defect, however, in some places, that the buds do not open well; but that is only a minor fault. Then there is that class of ever-blooming roses which are tender. But every rose grower wants some of them. They can be taken up in the autumn, and put in the cellar, and just as soon as the weather becomes settled in the spring you can put them out, and they will begin to bloom just after they have begun to grow, and they will keep on blooming all the summer through. All of that class of roses too, or nearly all, are very deliciously scented. Some of them have a climbing habit like Marechal Niel, which created a sensation two or three years ago. It is one of the most beautiful roses we have, and is deliciously scented. But it can only be grown to perfection in the green-house, and it should not be pruned back too severely. I do not know that I need undertake to name all the roses of the ever-blooming class. You can hardly go amiss if you take up any nurseryman's catalogue; but you can vary according to your taste as to colour and scent. I prefer to select those that are scented. When you have a rose of good form and colour, and can get it scented, you have the perfection of roses. Now, I want to say something on the cultivation of roses. If you want good roses do not fail to feed your rose bushes. Keep the soil rich and well stirred up. Do not let the weeds get near them and in dry weather water them well in the evening—not when the sun is shining, and when you do water them keep on watering until the water gets down to the roots. If you only give them a light sprinkling you will attract the roots to the surface where they are liable to get burned out.

The PRESIDENT in closing the meeting said: On behalf of the Fruit Growers' Association of Ontario, I desire to thank the people of Berlin who were so kind as to invite us here, and who have been so courteous in their attentions to us, and have contributed so much of interest to our discussions. I also beg to tender an invitation to our friends to be present at the meeting to be held at Barrie on the first and second days of October.

Mr. ALEX. MILLER (Mayor of Berlin).—I beg on behalf of the Town of Berlin to express our gratification that the Association did us the honour to select Berlin as the place of their meeting. The proceedings have been of a most entertaining character, and it is only to be regretted that more of the people of this section of country have not availed themselves of the advantage of attending this meeting. If the Association should on any future occasion choose Berlin as their meeting place, I think I can promise them a large attendance. I again express the thanks of this town for the honour you have done us.

The PRESIDENT.—I am glad to learn that the gratification is mutual. I am sure for our part, we shall be glad to come to Berlin again. We all know how difficult it is to induce farmers to come out in the busy season. If we come on a future occasion, I hope the attendance will be larger, for while those who attend greatly benefit us by the information they give us, they are also in turn benefited.

The following valuable paper prepared for the meeting was ordered to be printed in the annual report.

SHALL I BUILD A GREEN-HOUSE?

BY JUDGE BOYS, BARRIE.

A short time ago when your worthy secretary requested me to make a contribution to the common fund of knowledge in some branch of horticulture by preparing a paper for this meeting, I at first considered that my answer must be a refusal, as my own knowledge and experience were too limited to afford any expectation of my being able to interest, much less instruct, such a body of men. Yet when I reflected upon the request, and considered what my little experience had taught me, I determined not to say no. The question in such cases seems to be not so much as to what a person can teach the few experienced members, but what experience has taught me, which may be of use to

the average number of members of our society. Looking at your Secretary's request in this light, I began to consider where questions in horticulture puzzled me a few years ago, and in which I had now some experience. Three occurred to me almost simultaneously. One was—Shall I build a green-house? The second was—Can I grow grapes and flowers together? And the third was—What are the best remedies for green-house pests? As I am not going to trespass on your good nature by taking up all these subjects, I have selected the first one mentioned for the subject of this paper.

A few years back I considered the time had come when I might venture to build myself a modest dwelling-house, and I was then much exercised with the question—Shall I also build a green-house? and if I could then have met with a friend who had been through the experience with regard to green-houses that I have since been through, I might have saved myself a great deal of trouble and expense, to say nothing of vexation and annoyance. Doubtless such a friend could have been found, but after some search I couldn't find him. Believing there are many persons now in the same position I was in then, I offer these observations for what they may think them worth. I do not write for the man of large means, for he is a law unto himself, and can afford to purchase experience. If he makes a mistake his money and his servants and gardeners are on hand to put things right, and loss of time is not usually of much consequence to him; but I write for the man of small means who loves flowers, and who, after building himself a moderate dwelling, feels he can spend a little more in a green-house, provided it is no great expense to him after it is built; and who is too poor to keep a gardener, yet has an hour or two to spare from business which he would like to devote to horticultural pursuits.

Such a man is supposed to have informed me that he is going to build a dwelling and to have asked me the question—Shall I also build a green-house?

I answer—If you can build your green-house attached to your dwelling, and can afford to build it, whether small or large, in thorough good shape, by all means build it. If, however, you cannot attach it to your house, or have to put up a make-shift kind of an affair, then I give you the advice which Punch gave to those about to get married—“don't.”

In this cold, stormy climate, with numerous falls of snow each winter varying in depth from one inch to two feet, you may be assured that a green-house standing away from your dwelling will be a burden to you rather than a pleasure. To such a man as you are a green-house in summer is of little use—all the flowers you want can then be grown outside, and all the time you have to spare can be spent in the garden. It is when the weather gets too cold for flowers outside, and during the winter, when anything green is pleasant to look upon, that you want a green-house; and if you have to put on your hat and overshoes, and possibly an overcoat two or three times a day, and once or twice after dark to go and “fire up”; or if you take a run to put a cutting, or admire a blooming flower, and have to shovel away two feet of snow for a hundred yards before you can do so, you will soon lose your taste for flowers, and your green-house will become a “cold frame.” No, unless it can be placed against the house, or at least near enough to it to be reached by a covered passage, your green-house will be no source of pleasure to you. In fact nearly everything else should give place to having it open out from your dining-room, library or other room most commonly occupied during the day, and the upper half of the door should be of glass, so that when shut you can, while at meals or otherwise engaged at home, look up and catch a glimpse of green leaves or of flowers. With your green-house in this position no preparation is required before entering it. You can at any time, and in all weathers, go in bare-headed and with your slippers on. While waiting for breakfast or dinner, you can take a turn through it, or pot a flower, or water your plants, and thus turn to account many a moment which would be lost if your green-house stood out on the lawn away from the dwelling. The best aspect is on the south side of the house, and the green-house should run north and south. This will give the most sunlight, and at the same time afford the most shelter from the colder winds and hail storms. Or if you can afford a larger building than you care to run in one straight line from the south side of your house, first of all place a lean-to against that side, and run a T from the lean-to. Ten feet wide and twenty feet long would do very well for the lean-to, and

the T might be ten feet wide and fifteen or twenty feet long. This T should of course be opposite the door into the house, so that in looking from your room you would see a vista of plants and flowers. In placing your green-house in this position, you must not overlook the danger to your glass arising from snow and icicles falling from the roof of the house. This danger is reduced to a minimum on the south side, but is still great enough to require guarding against. If your house is to have a cottage roof, the whole length of the lean-to must be boarded over for six feet from the wall. If a gable end overhangs the green-house then only board over the portion of glass exposed. In the boarded part of the roof a movable section can be arranged to open and shut for ventilation. Two other movable sections should be made for the same purpose in the roof of the T, one on each side. There should be doors at each end of the lean-to so as to admit of ingress and egress to the green-house from the garden in front, or yard behind, without having to go through the dwelling-house. These doors will also be useful for ventilation in very hot weather.

The only objection I know of to placing a green-house in communication with your dwelling, is the one of smoking out the insects. These pests must be got rid of in some way, and tobacco smoke is a valuable insecticide, and it will penetrate all through your house to the disgust of every well regulated mind. The smell of stale tobacco will bring down what ought to be a first-class establishment, to a second or third rate one, as surely as a slovenly wife, or a drunken master. But by shutting your door as tight as you can, and by having a closely fitting movable batten-door, to fit on the outside of the frame, very little smoke need escape into the house. Besides, smoking out the insects is not absolutely necessary, as other means of getting rid of them can be adopted.

If you are a smoker there is an additional advantage in placing the green-house where I recommend. In winter-time it will always afford you a warm and agreeable place for a smoking room. Instead of annoying your wife, and giving your house a low-lived smell, if you are sufficiently master of the situation to smoke in your sitting room; or if you only play second fiddle, instead of being annoyed yourself by being relegated to the kitchen or some other uncomfortable place to do your smoking, you can at all times without any reasonable objection, retire among your flowers to consume the weed.

Next in importance to having the green-house attached to your dwelling, comes the question of building it in thorough good shape. By this is meant, complete and well done in every way. The foundation should be stone, otherwise your posts will rot after a few years and so will your sills, and the house will begin to settle, and probably unevenly, to the destruction of the glass. Besides, a stone foundation is warmer, a great consideration in this climate. If you can't command a good supply of water by water works, artesian well, windmill, or other better means, the whole foundation should be dug out and the stone work cemented, so as to form a tank under the floor, and thus supply an abundance of water ready at hand. If you have to be perpetually carrying water from any distance, your flowers will cost too much time and trouble to be a source of much pleasure to you. Every thing should be arranged with the view of saving your time and of giving as little trouble as possible, or, after the novelty of your green-house has passed away, you will weary of it. In this view the supply of water is very important. You must water your plants nearly every day, and in hot weather sometimes twice a day, and if the water is not ready at hand, the labour and time expended become burdensome. No reasonable expense therefore should be spared in obtaining an abundant supply of water flowing under pressure by merely turning the tap of your hose. I say then, if nothing better can be done, make a tank of ample dimensions under the floor, and place a force-pump therein. The plants can then be watered direct from the force-pump, or better still, you can force the water into a barrel elevated in one corner, and as required draw it off under pressure by means of a hose. This will enable you to give some plants more water than others, which is a necessary, but difficult thing to do, if the water is used direct from the pump, unless you get help and one person pumps, while the other manages the hose.

On your stone foundation build two feet of brick work, one brick thick at least. One and a half would be better, and on the brick work place four feet of perpendicular glass, and then the roof of glass. *All your glass must be doubled.* This adds materially to the expense, but I consider it an absolute necessity for an amateur gardener if he doesn't want

to get up some winter's morning and find all his plants ruined. Against the expense, however, there will be a saving in fuel. The inside glass should be made up in sashes that could be removed at will, so as to allow of cleaning both inside and outside glass, otherwise dirt will accumulate between the two and disfigure your green house. The panes should not be very large, for breakages will occur, and a small pane is cheaper to replace than a large one. All the glass wants to be very carefully put in and anchored so as not to slide downwards when the putty is soft, or when it hardens and shrinks. Glaziers usually employ soft metal points for the sides of the glass, and a piece of tin shaped like an S set in the middle of each pane. The glazier's points are useless or nearly so for the purpose. When an accumulation of snow and ice on the roof begins to shove, there is too much friction on the glass for these points to resist, and consequently your panes are always slipping down and showing an inch or two of clear day light between them—a dangerous state of things in cold weather. Each pane should be securely anchored by an iron brad or nail, at its lower end, in addition to the points on the sides; and the S shaped pieces of tin should not be allowed. They of necessity leave an opening between every pane across the whole width, of the thickness of the tin; admitting as much cold air as probably would be admitted by a hole in each pane of the size of an ordinary lead pencil. This, it is easy to see, should be avoided. Great pains should be taken in having the glass thoroughly well put in, and extra care and trouble should be taken with the valleys. These latter, if you have any in the roof, will be sure to leak and admit cold air unless well put together.

With regard to the roof, besides protecting it where endangered by falling icicles, etc., from the dwelling, as before stated; it should have a clean sweep from ridge to eave, without any projecting cornice, or other ornamentation, to stop the slide of snow and ice. If you have an eave-trough it should be small, and well set under the edge of the glass. There should be no double decked roofs to accumulate ice and then allow it to slide off on to the lower roof to the destruction of the glass. You must sacrifice architectural beauty to the exigencies of the climate. There is no objection to an ornamental cresting along the ridge, or to a neat frieze under the eave, provided it is not deep enough to shade the plants. A lofty roof is not desirable for it gives so much more air space to heat. Ten feet from the ridge to the floor, is quite high enough to work well, and still give room for all ordinary plants. If you have a lean-to, that can run up the side of the house a few feet higher and thus give room for a few very tall plants.

And now comes the important question of heating, for, construct your green-house as carefully and as thoroughly as you please, you will still require the means of getting up a considerable amount of artificial heat if you want to sleep in peace during the colder nights of winter. This heat question will touch your pocket and your time, and is one which is always making demands upon both for six months in the year, and consequently requires your best consideration at the outset. The commonest method of heating green-houses is by a brick furnace, with a flue running under the tables. This is probably the best method so far as original cost goes, but on other grounds it is not advisable for amateurs. There is great danger of fire from the long flues. The brick work will crack, and dry leaves and other rubbish, or woodwork will ignite in spite of your greatest care. The cracks, too, will allow the escape of a gas which is injurious to the plants, and you must always be tinkering at the brick work to stop it, or else to make the flue draw; and then, such a method of heating will consume as much more fuel as your dwelling house—a serious matter at present prices. I would prefer a base burning self-feeder coal stove inside the green house. This idea will make the professional gardeners open their eyes, for they tell us that heat from an iron surface never does for plants. Never mind them. I have not tried such a method of heating myself, but have received such evidence of its success from those who have, that I feel no hesitation in recommending it as a good plan. If an ample supply of water is kept on the stove, to moisten the air, no harm will be done worth speaking about. This method combines a partial saving of fuel, and also a partial saving of time in attending to the fire. But my own method of heating I consider preferable to all others known to me, as it requires little or no more fuel than what is required for the dwelling-house, and takes little or no more attention. It, however, necessitates a furnace for the house. But what man who is sensible enough to build himself a house

and to wish for a green-house, would build without putting in a furnace? Of all comfortable things in a house a furnace stands first in my estimation. A uniform heat all through the rooms, with no strong drafts, no shutting of inside doors, no carrying of wood or coal up stairs and through the house, with the accompanying labour and dirt. No constant piling of fuel on to fires or into stoves—with the house always comfortable in all parts by night and by day. With all these advantages and others “too numerous to mention,” on the side of a furnace, I will not insult your common sense by supposing you are not going to put one in your house. Then with a house-furnace the heating of your green-house is a mere trifle in extra expense and trouble beyond the first cost of apparatus. In my house-furnace I have what is technically called a “coil.” That is, a number of iron pipes along the sides and top. These communicate with three inch pipes running through the green-house, and are filled with water. There is also a standard or safety pipe to allow the steam generated to escape. By this means the fire that heats my dwelling with hot air heats also the water in the coil, and it at once circulates through the green-house pipes and back again to be re-heated, and so on. The steam which escapes from the standard is good for the plants, as they require a moist atmosphere, and the waste of water is supplied by occasionally putting some more into the pipes. This system of heating I contend combines the greatest economy of fuel and labour, and ensures the warmth in the green-house being kept up; for as soon as the heat lowers there, it falls also in the dwelling-house. To heat a green house of the dimensions referred to above, with a lean-to and T, not less than four three inch pipes should be used. I am not interested in any particular furnace, but I may state that I have found the large size Mills furnace give every satisfaction, and since I got mine several improvements have been made in it by my clever townsman, Mr. John Plaxton, and no doubt the Mills-Plaxton furnace is now a better one still. Fitting in the coil and pipes must not be entrusted to any tinsmith who thinks himself a plumber, for much skill and experience are necessary to adjust the size and number of pipes to the amount of heat required; and if the pipes of your coil are not given the right slant, the circulation of water will not be rapid enough, and your whole system prove too noisy and unmanagable. If all is made properly, depend on it satisfaction will be the result. This system is perhaps rather more expensive than the others at first, but in the end will be by far the cheapest.

My advice then is to build a greenhouse attached to your dwelling, and to build it thoroughly in all respects, or don't build one at all. Sacrifice the size to meet your pocket, if necessary, but don't give way one inch as to the position, or thorough completeness of the building.

A word before concluding, as to the floor and tops of the tables. The former should be made of slats say one and a half inches wide and set $\frac{1}{2}$ or $\frac{3}{4}$ inch apart, so as to prevent water settling on the floor, through which you and your family will have to piddle. The latter should be made solid and then covered with about an inch in depth of screened sand levelled off smooth with a straight edge. Don't cover your tables with Tan-bark or any other stinking or dirty stuff. Sand is the cleanest and neatest thing to use, and the dampness it will hold, will help keep the pots from drying out. And then you can utilize it all along the edges of the tables for starting cuttings.

I have thus outlined my ideas with regard to a greenhouse for an amateur florist of moderate means. To give plans, estimates and measurements in complete detail, would occupy too much of your time. For the hearing you have been pleased to give this paper, accept my thanks.

REPORT OF THE COUNTY OF RENFREW FRUIT-GROWERS' ASSOCIATION.

A. A. Wright, President; D. Halliday, Vice-President; W. E. Smallfield, Secretary-Treasurer.

The inaugural meeting of this Society—the first County Association established in affiliation with the Provincial—was held in the Renfrew Village Town Hall, on Tuesday, 22nd of January, 1884, and was well attended. The historian of our county will not be

able to say of this, as of some of our local societies, that in its early days it had a struggle for existence. From the first the idea of forming such an Association was received with favour, and it started into life with nearly fifty members, all of whom became, through it, members of the Ontario Fruit Growers' Association, the subscription fees having been fixed at 25 cents for membership in the County Association, or \$1.20 for membership in both the Ontario and County Associations. A few afterwards joined the local society alone, but eventually most of these became sufficiently enthusiastic to hand in their extra subscription for membership in the larger body.

About half of the members were present at this first meeting, besides a number of interested visitors.

The meeting opened with the election of officers, and then, after a short address by the President, the work laid out for the first meeting—the preparation of a reliable list of the apples that have been successfully grown in this neighbourhood—was proceeded with. Everyone in the room who had had any experience at all in apple culture was expected to relate that experience, and in this manner a first class list was obtained.

The following is a condensed report of the "experiences:"

D. HALLIDAY. In 1867 purchased seventy or eighty trees, which were thought by reliable men to be hardy. Of these, the Red Astracan was partly killed back, but is now doing well. Duchess, doing well. Alexander, all killed back; only remnant of one now left. St. Lawrence, killed back, now doing well. Fameuse, killed back for year or two; now doing well. Golden and Roxbury Russets and Talmu Sweets, all killed off. Crabs did grandly; had too many, and top-grafted; grafts doing well. In 1881 put in Wealthy, one bore second year; McIntosh Red, doing well. Russian trees, all but one doing well. The Mann was a dead failure.

ANDREW FORREST. Twenty-five years ago, purchased twenty-five trees from Rochester; planted them in three rows, and numbered them instead of labelling. The Talmu Sweets were the last to give out, and succeeded very well on his rich stoney loam. Red Astracan, grafted, bore very well. Three years ago planted Wealthy, Twenty Ounce, Fameuse and Wallbridge—all doing well, particularly the Wealthy. Wouldn't advise to plant the Twenty Ounce. Duchess, doing well. Early Strawberry, good, small bearer, but early and seems to be hardy; had one fifteen years. Russets—two kinds, one the Golden—seemed to thrive, fruit not large. He had a number of seedlings doing well; the best keeping apples were all from seed so far in this district.

HENRY AIRTH. Had two Duchess; very good bearers, in alternate years. Wallbridge, young, seems good. Pewaukee, looks good, but no fruit, had it five years. Wealthy blossomed this year for first time, but no fruit. Alexander, a dead failure.

ROBT. McLAREN. Had had a number of very good Seedlings, but they had blighted considerably, and his orchard was now pretty much reduced to Montreal Beauty Crabs.

THOS. COLE. Had no trees, but plenty of "experience." Hadn't taken care of the trees he did plant, and now he had none.

JOHN JOHNSTON. Put in trees called iron-clads. Wallbridge, Pewaukee and Haas but all went the third year. Now had but Duchess, Tetofsky, Wealthy and Rubicon for two years, all doing well. Sandy soil.

R. C. MILLS. Apples all doing well, only remembered the Duchess by name. Had no trouble in growing trees, but the borer was very troublesome.

JAS. LEITCH. In 1878 put out a number of trees. Of these, the Haas grew all right and has fruited sparingly for a couple of years. The Alexander did exceedingly well, and has fruited two or three years. The Tetofsky has borne one or two apples. Bottle Greening and Acubafolia failed. In 1881 he purchased some more trees from an agent named Jones, who, he thought, was pretty well known now in this neighbourhood. He didn't think that Jones intended it, but there were one or two very good ones in the lot; didn't know their names. The Wealthy did splendidly. Pewaukee was alongside the Wealthy, but did not do as well; would try it in higher ground. Fameuse likely to die, black about the forks.

RICHARD HUMPHRIES. Trees grew well in his section. His own were mostly Seedlings. Had two good Duchesses.

WM. AIRTH. McIntosh Red, Fameuse, Pewaukee and Wallbridge were all doing

well. His was a light soil, limestone bottom. Wealthy never killed back at all. The Mann killed out. Tetofsky doing well.

JOHN STEWART (Horton). Orchard mostly young. Tetofsky, Wealthy and Duchess all doing well. He had a Montreal Beauty Crab, from seed, the fruit of which was larger than that of imported trees. Promised to exhibit it at Agricultural Exhibition.

GEO. MCQUITTY.—Also purchased from Jones. Out of fifty trees seven are living. None are bearing yet.

JAS. McLACHLAN.—Duchess, in bearing, splendid. Wealthy, good. McIntosh Red, not as good as Wealthy. Haas doing well, not yet in bearing. Pewaukees all died. Soil, gravelly.

JOHN AIRTH.—Duchess, good. Pewaukee, Alexander and Haas all doing well. McIntosh Red, a failure; six planted, one delicate living. Soil, loam.

JOSEPH KNIGHT.—Red Astracan, bearing for ten years; it ought to grow with every one. Pewaukee grew vigorously first season, and died next spring. First lot of McIntosh Red died; a second lot now growing. Wallbridge and Wealthy doing well. Tetofsky in bearing six years. Duchess, all growing. Fameuse, bearing six or seven years; not over hardy, does well on gravelly soil. Russet, Greening, and Northern Spy died out after first year. Alexander will do if planted on a northern exposure. Twenty Ounce did well till it commenced to bear.

JOHN MCGREGOR.—Trees mostly seedlings; but Duchess, good and bearing. Pewaukee and Wealthy doing well, but not yet bearing. Alexander failed. Sandy loam, facing north.

WM. LECKIE.—Duchess grows well and bears well. Alexander doing well. Talman Sweet is healthy and hardy and bears well. Fameuse, good crop every year. Early Strawberry does well. Tetofsky bears well. Northern Spy, Ben Davis and Golden Russet are doing well. Sandy loam, north-east face.

MR. BLANE.—Had a Fameuse, which bore for twenty-five years in succession, but had not borne this year. Also had young Wallbridges and Pewaukees, thriving.

A. A. WRIGHT.—Had fruited the Tetofsky, White Astracan, Duchess, Wealthy and McIntosh Red; and the Yellow Transparent, Grand Sultan, Peach of Montreal, Wallbridge, Northfield Beauty, Magog Red Streak, and Scott's Winter are all promising well, though they have not yet fruited.

W. E. SMALLFIELD.—Trees all young. Fruited dwarf Red Astracan one year. St. Lawrence, dwarf, grows well. King of Tompkins County killed back first, now doing well. Keswick Codlin, English Russet, and Fameuse all failed. Wealthy and McIntosh Red doing well.

It was decided to hold a summer meeting in June or July.

A number of questions regarding second-growth forests were asked, on behalf of Mr. Phipps, Clerk of the Preservation of Forests in Ontario.

The President, Mr. Wright, asked the members to make a note of the date when each of their varieties of grapes commenced to colour, and when it ripened.

After the Fruit-Growers' meeting, the farmers present unanimously agreed to endeavour to establish a Farmers' Club.

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	Scale 1 to 5.					REMARKS SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Desert.	Home Market.	Foreign Market.	
NORFOLK										
Alexander	Large	Red.	April	Good.	5	5	5	5	5	Clay loam.
American Golden Russet	Large	Russet	March	Very good	5	5	5	5	5	Sandy loam.
American Pippin Grindstone	Medium	Red	March	Very good	5	5	5	5	5	Sandy loam or clay loam.
Baldwin	Medium	Red	March	Good	5	5	5	5	5	..
Beauty of Kent	Large	Yellow	November	Good	5	5	5	5	5	..
Ben Davis	Medium	Yellow	January.	Good	5	5	5	5	5	..
Black Gold over	Medium	Red to black.	February.	Poor	5	5	5	5	5	..
Blenheim Pippin	Large	Yellow	December.	Good	5	5	5	5	5	..
Catfish, Twenty oz Pippin	Very large.	Yellow	December	Poor	5	5	5	5	5	..
Canada Russet	Largest	Yellow	January.	Very good	5	5	5	5	5	..
Chenango Strawberry	Large	Red.	September	Good	5	5	5	5	5	..
Colvert	Large	Yellow	November	Good	5	5	5	5	5	..
Dorset Black	Very large	Red.	September	Very poor	5	5	5	5	5	..
Duchess of Oldenburgh	Medium	Red.	September	Good	5	5	5	5	5	..
Early Harvest	Medium	Yellow	August.	Best	5	5	5	5	5	..
Early Joe	Small	Red	July	Best	5	5	5	5	5	..
Early Strawberry.	Small	Red	July	Best	5	5	5	5	5	..
Esopus Spitzenburgh	Large	Red	January.	Best	5	5	5	5	5	Best clay loam.
Fall Pippin	Large	Yellow	November	Poor	5	5	5	5	5	..
Finniss (Snow)	Small	Red	December	Best	5	5	5	5	5	..
Flushing Spitzenburgh	Small	Red	January.	Good	5	5	5	5	5	..
Gloria Mundi.	Largest	Yellow	December	Poor	5	5	5	5	5	..
Golden Russet (N.Y.)	Large	Russet	February.	Very good	5	5	5	5	5	..
Gruvenstein	Very large	Red	November	Best	5	5	5	5	5	..
Green Newtown Pippin	Large	Yellow green	February	Best	5	5	5	5	5	..
Keswick Codlin	Largest	Red	February	Best	5	5	5	5	5	..
King of Tompkins Co.	Largest	Red	September	Very good	5	5	5	5	5	..
Marden's Blush	Medium	Greenish yellow	February.	Very good	5	5	5	5	5	..
Mann	Very large	Red	February.	Good.	5	5	5	5	5	..
Newtown Spitzenburgh (Vander- voort of N.Y.)	Medium	Red	February.	Good.	5	5	5	5	5	Best soil is clay loam; cultivated.

NOTE. In this table size is denoted as small, medium, large, very large. Colour is denoted by the words, brown, green, orange, red, russet, yellow, etc. Season is designated by the months as January, February, etc. Quality is indicated by the accepted terms, poor, good, very good, best. Hardiness, productiveness and value for desert, cooking, home and foreign market are designated by figures from 1 to 5; figures 1 being the lowest and 5 the highest in the scale of merit.

COUNTY REPORTS ON VARIETIES OF APPLS GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.						REMARKS, SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.	Foreign Market.	
Norfolk—Continued.											
Northern Spy	Large	Red	February	Best	5	5	5	5	5	5	Sandy loam; cultivated.
Pomme Grise	Small	Russet	November	Good	5	5	5	3	3	3	"
Rambo	Medium	Green and red stripes	December	Very good	5	4	4	3	4	5	Clay loam;
Red Astrachan	Medium	Red	August	Very good	5	5	5	4	5	5	"
Red Canada	Medium	Red	January	Very good	5	5	5	5	5	5	"
Ribston Pippin	Large	Red	December	Very good	5	5	5	5	5	5	"
Rhode Island Greening	Large	Green	January	Best	5	5	5	5	5	5	"
Roxbury Russet	Very large	Russet	February	Good	5	5	5	5	5	5	"
St. Lawrence	Large	Green & red streaks, often red	September	Very good	5	5	5	5	5	3	"
Sweet Bough (Large Yellow Bough)	Medium	Yellow	September	Good	5	3	5	3	4	4	"
Swayzie Pomme Grise	Small	Russet	February	Best	5	5	5	5	5	5	"
Talman Sweet	Medium	Yellow	February	Good	5	5	1	3	2	2	"
Tetofsky	Small	Yellow	September	Poor	5	1	1	1	1	1	"
Twenty Ounce (Cayuga Red streak)	Very large	Red	September	Good	5	5	5	5	5	5	"
Wagner	Medium	Yellow	January	Good	5	5	3	4	5	4	"
Westhay	Medium	Yellow	January	Very good	5	5	4	4	5	5	"
Westfield Seckin further.	Large	Red	January	Best	5	5	4	5	5	5	"
White Astrachan	Medium	Red	December	Very good	5	5	3	3	3	3	"
Winesap	Medium	Red	February	Very good	5	5	4	5	5	5	"
Yellow Belflower	Medium	Yellow	March	Very best	5	5	5	5	5	5	"
Yellow Newtown Pippin	Medium	Yellow									and best cultivation.

VARIETIES (CHIEFLY GROWN AND OF MOST VALUE) IN CHARLOTTEVILLE.

		<i>Winter.</i>		<i>Fall.</i>		<i>Summer.</i>	
Badwin.		Gravenstein.		Early Harvest.		Early Harvest.	
Esopus Spitzenburg.		Faneuse or Snow.		Sweet Tough.		Sweet Tough.	
Norfolk Spy.		Duchess of Oldenburgh.		Red Astrachan.		Red Astrachan.	
King of Tomkins Co.		St. Lawrence.		Chenango Strawberry.		Chenango Strawberry.	
Green and Yellow Newtown Pippin.		Twenty Ounce or Cayuga Red Streak		Early Strawberry.		Early Strawberry.	
Swayzie Pomme Grise.		Ribston Pippin.		Early Joe.		Early Joe.	
American and Roxbury Russets.							
R. T. Greening.							
Yellow Belflower.							

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLORS.	SEASONS.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Choking.	Home Market.	Foreign Market.	
NORFOLK—Continued.										
Crab Apples.										
Hyslop	Large	Red	August	Good	5	5	1	3	4	1
Large Red	Small	Red	November	Very good	5	5	1	5	5	1
Large Yellow	Small	Yellow	August	Good	5	5	1	5	5	1
Montreal Beauty	Large	Yellow	October	Very good	5	5	1	5	5	1
Transcendent	Medium	Yellow	October	Best	5	5	1	5	5	1
Silurian	Medium	Golden yellow	September	Very good	5	5	1	5	5	1
LINCOLN										
Alexandra	Large	Red or Striped	July to Oct.	Fair	5	4	1	4	5	
American Golden Russet	Medium	Russet	April	Best	5	5	5	4	5	Sand.
American Pippin, Groundstone	Medium	Striped	May	Poor	5	5	1	1	4	
Early Sweet	Large	Red	October	Poor	4	3	1	2	2	1
Fiddlers	Medium to large	Reddish brown	February.	Very good	5	5	4	4	5	Lat. rest on heavy clay; cultivated.
Beauty of Kent	Medium to large	Striped and splashed red	October	Very good	5	5	3	4	1	Sand.
Ben Davis	Medium to large	Striped	Jan. to April	Poor	5	5	1	2	5	
Blenheim Pippin	Large	Striped red	October	Good	5	4	3	4	4	
Blue Pearmain	Large	Bluish red	December	Good	5	4	3	3	4	
Boutaux	Medium	Reddish russet	January.	Poor	5	1	1	2	4	
Cabashan, Two-ear, Pippin	Large to very large	Red	October	Good	5	3	3	3	1	
Colvert	Large	Red	September	Good	5	4	2	1	1	
Cooper's Market	Small	Red	March	Poor	5	4	1	4	4	Sand; inclined to grow unshapen.
Cranberry Pippin	Large	Striped red	January	Very good	5	4	1	4	4	Sand; same as last, uneven shape.
Detroit Black	Large	Dark red	October	Very good	5	4	1	4	5	Sand; spots badly.
Duchess of Oldenburgh	Large	Yellow	September	Best	5	5	5	5	5	Sand; inclined in shady parts of tree and very small.
Early Harvest	Small to medium	Yellow	July and Aug.	Best	5	4	1	4	4	Sand; measured in good samples.
Early Strawberry	Small	Striped red	August.	Very good	5	2	4	4	3	Cracks, scales of late, so that it is worthless.
Esopus Spitzenburgh	Small	Red	February.	Best	4	2	4	4	4	
Fallowater	Large	Brown to green	November.	Poor	3	4	1	4	3	
Fall Jemting	Medium to large	Yellow	November.	Good	4	4	4	5	4	
Fall Pippin	Large	Yellow	September	Best	4	3	2	5	4	Spots so badly that it is usually unfit to ship anywhere; sand.
Faneuse (Snow)	Small	Red	January	Best	5	5	5	4	4	
Gloria Mundi	Large	Yellow	October.	Good	5	2	2	4	4	

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
LINCOLN.—Continued.											
Golden Sweet	Large	Yellow	August.	Best.	5	5	5	3	3		
Gravenstein	Large	Striped red	September.	Best.	5	5	5	4	5		
Green Newtown Pippin	Medium	Green.	Jan. to April.	Best.	3	3	5	3	5		
Grimes' Golden Pippin	Small	Yellow.	February.	Good	4	4	4	3	5		
Hawley	Large	Yellow	October.	Best	4	5	4	5	3		
Holland Pippin	Large	Golden with blush	December.	Best	4	3	4	5	3		4 Liab. to spot.
Jersey Sweeting	Medium	Red	September.	Good.	4	4	4	1	3		
Keswick Codlin	Medium	Whitish	Aug. and Sept.	Good.	5	5	5	4	4		
King of Tompkins Co.	Large	Red.	February.	Best	3	3	5	5	5		
Lady	Very small	Light with blush	February.	Best	3	3	5	1	5		4
Maiden's Blush	Medium	Red cheek	October.	Very good.	5	5	4	4	2		Drops from tree early.
Mam	Medium	Very green	Mar. or April.	Good.	4	4	5	2	3		
Mother	Medium	Red	January.	Good.	4	4	5	2	3		
Newton Spitzenburgh (Vanderburgh of N.Y.)	Medium	Red	Mar. to April.	Best	5	5	5	5	5		Spots and scabs.
Northern Spy	Large	Blush striped	February.	Good	4	4	4	3	3		Spots of late years; uncoloured in the shade.
Pack's Pleasant	Medium	Greenish with blush.	January.	Best	5	4	4	3	4		
Pomme Grise	Small	Russet	October.	Best	5	4	5	3	5		
Porter	Medium	Yellow.	October.	Best	4	4	4	4	4		
Primrose	Medium	Yellow with blush	August.	Best	5	5	4	4	4		
Rambo	Medium	Blush striped	October.	Very good	5	5	4	4	5		Spots too badly.
Red Astrachan	Medium to large	Red.	August.	Fair	5	5	2	4	4		Very shy bearer.
Red Canada	Medium	Red	February.	Good.	4	4	3	4	4		
Red Russet	Medium	Reddish Russet.	October.	Good.	4	4	3	4	4		
Ribston Pippin	Medium to large	Striped with red	December.	Best	5	5	5	5	5		
Rhode Island Greening	Large	Green	February.	Very good	5	5	3	4	5		Spots and cracks of late years.
Rochester Russet	Medium	Russet	April to May	Very good	5	5	3	4	5		
Scarlet Pearmain	Large	Striped	Dec. to Jan.	Good	4	2	4	3	4		
St. Lawrence	Medium	Light green	October.	Good	5	3	4	3	4		Spots.
Sweet Bough (Large Bough)	Medium	Light green	October.	Good	4	3	2				Not clear.
Talman Sweet	Large	Yellow	July to Aug.	Very good.	5	3	3	3	3		
Twenty Ounce (Cayuga Red-struck)	Small	Yellow	February.	Good	5	5	3	4	4		
	Large	Striped.	December	Good	4	4	2	4	4		Spots in some orchards.

Vandevere	Medium	Striped	January	Best	4	3	4	2	3	2 Spots badly.
Wagner	Medium	Red	January	Very good	4	3	3	4	4	Too much in form.
Wealthy	Medium	Red	December	Good	5	4	4	4	4	
Westfield	Medium	Red and striped	January	Good	5	5	1	3	3	4
Yellow Bellflower	Medium to large	Yellow	Jan. to Feb.	Good	2	1	3	1	3	3
Very seldom fit for market.										
<i>Orch. Apples.</i>										
Hyslop	Large	Dark red	September	Good	5	5	1	5	5	
Large Yellow	Large	Yellow	September	Good	4	5	1	4	4	
Montreal Beauty	Large	White with blush	September	Good	5	5	1	5	4	
Transcendent	Large	Red	September	Best	5	5	1	5	5	
Sherman	Small	Red and yellow	September	Good						Good for yellows.
<i>Minutemen</i>										
American Summer Pearmain	Medium	Red mottled	Aug. and Sept.	Very good	3	4	3	4		Needs good soil and good cultivation.
Baldwin	Medium	Brownish red	Jan. to Feb.	Best	4			5		Does best on good limestone soil, well cultivated.
Belmont	Medium	Whitish blush	Oct. to Jan.	Good	4	4	5	4		Does well on good deep clay loam.
Colvert	Medium to large	Striped or green and red	Sept. and Oct.	Medium	5	5	3	3		
Early Harvest	Medium	Yellow	August	Good	4	4	4	4		Spots badly lately.
Esopus Spitzenburgh	Medium	Red	February	Very good	5	3	1	5	5	Requires rich clay soil
Fall Pippin	Large	Green	Nov. and Dec.	Good	4	3	1	4	3	
Famouse (Snow)	Medium	Red and green	Sept. to Dec.	Very good	5	5	5	5		Does well generally on all soils, if well cultivated.
Golden Russet (N. Y.)	Medium	Golden russet	Nov. to April	Very good	5	5	5	4	5	Best on good deep, strong soil.
Gravenstein	Medium	Red and yellow	Sept. to Nov.	Very good	3	3	5	5	5	Needs good soil and extra care.
Green Newtown Pippin	Large	Green and yellow	Feb. and Mar.	Best	2	3	5	5	5	Not sufficiently tried to warrant an opinion.
Grimes Golden Pippin	Large	Yellow	September	Very good	3	4	4	5	5	Needs good medium soil.
Hawley	Large	Red and green	Sept. to Jan.	Good	3	5	4	5		Best on limestone or good deep, strong soil.
Hubbardston Nonsuch	Medium	Red and striped	Nov. to April	Very good	5	5	4	4	5	Needs good soil and cultivation.
Jonathan	Large	Red striped	Nov. to March	Good	4	3	4	5	5	Several of the others do fairly, but are not generally so happy.
King of Tompkins Co.	Large	Red and yellow	Nov. to Dec.	Best	4	4	5	4	4	One of our best late fall apples.
Maiden's Blush	Large	Red and yellow	Nov. to May	Good	5	4	4	4	5	Not generally known here.
Mann	Medium	Green	Sept. and Oct.	Very good	5	5	5	5	4	Don't know if this is identical with what is generally called Sweet Pear, if so it is excellent.
Munsion's Sweet.	Medium	Yellowish green								
<i>Orch. Apples.</i>										
Northern Spy	Large	Red striped	Nov. to April	Very good	5	5	5	5	5	
Phoenix	Medium	Dark and white spots.	Oct. to April	Poor	5	5	3	3		
Porter	Medium	Yellow	Sept. and Oct.	Very good	5	5	5	5	3	
Red Astrachan	Medium	Red striped	Aug. to Sept.	Good	4	5	4	5		
Red Canada	Medium	Red	Oct. to April	Good	4	4	4	5	5	
Ribston Pippin	Medium	Red and russet	Oct. to Jan.	Good	3	4	4	4	4	
Rhode Island Greening	Medium	Green	Nov. to March	Very good	4	5	5	5	5	
Roxbury Russet	Large	Russet	March to May	Good	5	5	2	3	3	4
Sops of Wine	Large	Green russet	Jan. and Feb.	Best	5	4	4	5	4	8
St. Lawrence	Medium to large	Striped	September	Very good	5	5	5	4	5	

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES (CLASSIFIED BY COUNTIES.)	SIZE	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS, SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
MIDDLESEX—Continued.											
Sweet Bough (Large Yellow Bough).....	Large.....	Yellow.....	August.....	Good.....	4	4	4	1	1	1	Very poor for market.
Tahman Sweet.....	Medium.....	Yellow.....	Oct. to Jan.....	Good.....	5	5	5	3	3	3	
Twenty Ounce (Cayuga Red streak).....	Large.....	Red striped.....	Oct. to Jan.....	Good.....	4	5	4	4	4	4	Needs extra cultivation and good soil. Especially valuable for drying, needs good deep soil.
Westfield Stocknofurther.....	Medium.....	Greenish mottled.....	Oct. to March.....	Good.....	5	5	3	3	3	3	
Williams' Favourite.....	Medium.....	Red and green.....	Aug. and Sept.....	Good.....	4	4	3	3	5	5	
Winesap.....	Medium to large.....	Red and yellow.....	Sept. to Dec.....	Very good.....	4	5	3	5	5	5	
Yellow Bellflower.....	Medium.....	Yellow.....	Nov. to March.....	Good.....	5	3	4	4	4	4	Does not succeed in this section.
Yellow Newtown Pippin.....	Large.....	Yellow.....	Feb. and Mar.....	Best.....	3	3	5	5	5	5	
Crab Apples.											
Hyslop.....	Medium.....	Dark red.....	Sept. to Nov.....	Poor.....	5	4	4	4	4	4	
Transcendent.....	Large.....	Striped.....	September.....	Very good.....	5	5	5	5	5	5	
OXFORD—											
Alexander.....	Very large.....	Red streaked.....	September.....	Medium.....	4	5	5	5	5	5	
American Golden Russet.....	Small.....	Russet.....	Mar. to July.....	Medium.....	5	5	2	1	3	5	
American Pippin (Grandstone).....	Large.....	Red streaked.....	Mar. to June.....	Poor.....	5	2	1	1	2	5	
Baldwin.....	Medium.....	Red.....	Feb. to May.....	Medium.....	5	5	3	4	4	5	
Beauty of Kent.....	Large.....	Brown red.....	Dec. to April.....	Good.....	4	3	2	5	5	2	
Bellmont.....	Medium.....	Yellow red cheek.....	Nov. to Feb.....	Good.....	2	3	4	4	5	1	
Ben Davis.....	Medium.....	Red streaked.....	Dec. to Feb.....	Good.....	4	5	3	5	5	4	
Black Gillflower.....	Small.....	Brown.....	November.....	Poor.....	3	5	2	1	1	1	
Blenheim Pippin.....	Large.....	Red streaked.....	Oct. and Nov.....	Good.....	5	3	4	5	5	5	
Blue Pearmain.....	Medium.....	Brown.....	Dec. to Feb.....	Poor.....	2	2	1	1	1	1	
Bottle Greening.....	Medium.....	Green.....	Dec. and Jan.....	Very good.....	3	4	1	4	3	1	
Boussa.....	Small.....	Russet brown.....	Feb. to May.....	Poor.....	2	3	2	1	1	1	
Cadashua (Twenty Oz. Pippin).....	Medium.....	Red streaked.....	Jan. and Feb.....	Fair.....	1	1	2	4	3	3	
Canada Baldwin.....	Small.....	Red.....	Feb. and Mar.....	Medium.....	2	3	1	4	2	4	
Colvert.....	Large.....	Yellow red.....	Nov. to Jan.....	Medium.....	1	1	1	4	3	4	

Domino	Large	Red streaked	Dec. and Jan.	Poor	2	3	1	4	3	2
Detroit Black	Large	Dark red.	Oct. and Nov.	Good	1	2	4	2	2	2
Duchess of Oldenburgh	Medium	Red streaked.	Sept. and Oct.	Good	4	5	5	5	4	
Early Harvest	Small	Yellow.	August	Good	3	1	5	5	4	
Early Joe	Small	Red	August	Good	4	5	5	3	4	
Early Strawberry	Medium	Strawberry.	August	Good	3	2	1	5	5	
Esopas Spitzendburgh	Medium	Red	Jan. to May	Good, best	1	2	5	5	5	
Fallowater	Large	Brown green	Jan. to April	Poor	5	5	1	1	5	
Fall Jetting	Medium	Yellow.	Sept. and Oct.	Good	5	5	5	3	4	
Fall Pipin	Large	Yellow.	Nov. to Jan.	Good	5	5	5	5	5	
Finesse (Snow)	Small	Red	Oct. to May	Good	3	3	5	5	5	
Flushing Spitzendburgh	Medium	Red streaked	Nov. to Jan.	Fair	2	2	3	2	1	
Gloria Mundi	Large	Yellow white	Oct. and Dec.	Poor	4	1	1	3	3	
Golden Russet N. Y.	Small	Yellow russet	Mar. to June	Medium	4	1	3	3	5	
Golden Sweet	Medium	Yellow.	Aug. and Sept.	Poor	4	3	1	1	2	
Glavenston	Large	Red streaked	Oct. and Nov.	Poor	3	2	1	2	2	
Hawley	Large	Yellow.	September	Good	3	2	1	5	5	
Hawthornden	Medium	Yellow, red cheek	Sept. and Oct.	Good	2	1	3	3	2	
Holland Pippin	Medium	Yellow.	Dec. to Jan.	Good	3	2	1	4	3	
Hundredston Nova scot	Large	Red streaked.	December	Poor	2	2	3	3	2	
King of Tompkins Co	Large	Red	Dec. to Feb.	Good	4	3	5	5	5	
Lady	Small	Red	Dec. to Feb.	Good	2	1	3	2	1	
Late Strawberry	Medium	Red streaked	Aug. and Sept.	Good	3	2	1	3	1	
Marden's Blush	Small	Yellow, red cheek	Sept. and Oct.	Good	4	1	5	5	5	
Madair	Large	Red streaked	Oct. and Nov.	Medium	3	2	1	3	4	
Munson's Sweet	Medium	Yellow.	October	Good	4	3	4	5	2	
Newton Spitzendburgh N. Y.	Medium	Red	Jan. and Feb.	Good	2	1	3	1	3	
Odessa of N. Y.	Large	Red streaked.	June to Jan.	Good	5	5	5	5	5	
Pennock	Large	Red russet	Dec. to Feb.	Poor	5	5	2	4	2	
Pomme Grise	Small	Russet	Jan. and Feb.	Good	4	3	5	5	2	
Porter	Medium	Yellow.	September	Good	4	5	5	5	5	
Primette	Medium	Yellow, red cheek	September	Good	2	2	3	4	3	
Pumpkin Russet	Large	Green russet	Nov. and Dec.	Poor	4	5	4	5	5	
Rimbo	Medium	Red streaked	Oct. and Nov.	Medium	2	1	1	2	1	
Red Astrachan	Small	Red	August	Good	4	5	5	5	5	
Red Canada	Medium	Red	Jan. and Feb.	Poor	4	4	2	4	3	
Red Russet	Medium	Red	January	Medium	3	2	1	1	2	
Ribston Pippin	Medium	Red russet	December	Good	4	5	5	5	5	
Rhode Island Greening	Medium	Green	Jan. to Mar.	Good	5	5	5	5	5	
Roxbury Russet	Medium	Russet	Mar. to June	Good	1	2	3	2	5	
Scarlet Pomman	Medium	Red	Nov. to Feb.	Good	2	1	4	1	3	
St. Lawrence	Medium	Red streaked	Sept. and Oct.	Good	4	3	5	5	4	
Sweet	Medium	Yellow.	Jan. to May	Good	3	2	5	5	3	
Sweet Bough (Large Yellow Bough)	Large	Yellow.	July and Aug.	Good	3	1	4	2	4	
Swayze Pomme Grise	Small	Russet.	February	Good	1	2	4	5	5	
Taham Sweet	Medium	Yellow.	Jan. to May	Good	3	4	3	3	4	
Twenty Ounce (Large Red streak)	Large	Red streaked	Sept. to Nov.	Good	4	4	2	5	5	
Vandevere	Medium	Red streaked	Dec. and Jan.	Medium	3	2	1	3	4	

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO. *Continued.*

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS, SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Desert.	Cooking.	Home Market.		Foreign Market.
OXFORD—Continued.											
Wagner.....	Small	Red	Mar. and April	Good	3	4	1	1	2	4	Uncertain bearer.
Wealthy.....	Large	Red streaked	Oct. and Nov.	Good	3	4	2	2	3	5	
Westfield Seckinofurther.....	Large	Red streaked	Oct. and Dec.	Good	4	2	2	2	3	5	
White Astrachan.....	Medium	White, red mottled	Aug. and Sept.	Good	3	3	3	3	3	5	
Yellow Belleflower.....	Large	Yellow	Dec. to Mar.	Good	3	4	5	5	5	2	
Yellow Newtown Pippin.....	Medium	Yellow	Mar. and May	Good	3	2	4	4	4	5	
BRANT											
Alexander.....	Very large	Red	October	Good	3	4	4	4	4	1	Sandy soil in general throughout the county, and with but few exceptions the cultivation is not much; some parties plough the ground and try to grow large crops, others seed down, cut the grass for hay, and then pasture the rest of the season, the cattle breaking down the smaller trees in general. The county is a good fruit-growing one, producing almost all varieties of common fruit, with a little care and attention.
American Golden Russet.....	Medium	Russet	Winter	Very good	4	5	3	3	4	4	
Arnold's Beauty.....	Large	Yellowish red	Winter	Best	5	5	5	5	5	5	
Baldwin.....	Medium	Red	Winter	Good	2	4	2	4	4	5	
Belmont.....	Medium	Green, red cheek	January	Good	4	3	3	4	4	1	
Ben Davis.....	Medium	Red	Mar. & April	Good	5	5	5	5	4	4	
Bonum.....	Medium	Striped red	Summer	Best	5	5	5	5	5	5	
Black Gillflower.....	Medium	Dark red	Jan. to March	Good	5	5	5	5	5	5	
Blenheim Pippin.....	Large	Red	March	Good	5	5	5	5	5	5	
Cabeshead (Twenty oz. Pippin).....	Large	Green red	Oct. to Nov.	Poor	5	3	4	3	5	5	
Canada Baldwin.....	Medium	Red	January	Good	5	2	5	3	5	2	
Colvert.....	Medium	Greenish yellow	October	Good	5	4	3	4	4	4	
Cox's Orange Pippin.....	Medium	Orange russet	Winter	Best	5	5	5	5	5	5	
Duchess of Oldenburgh.....	Medium	Striped	September	Good	5	4	4	5	5	5	
Early Harvest.....	Medium	Yellow	August	Good	5	3	4	3	5	4	
Early Strawberry.....	Small	Dark red	August	Best	4	4	5	4	5	5	
Esopus Spitzenburgh.....	Large	Red	February	Very good	5	5	5	4	5	5	
Fallwater.....	Large	Reddish	March	Good	5	5	5	5	5	5	
Fall Pippin.....	Large	Yellow	Nov. and Dec.	Very good	4	3	4	4	4	1	
Faneuse (Snow).....	Medium	Red	Nov. and Dec.	Best	5	5	5	4	5	5	
Gloria Mundi.....	Large	Light green	November	Poor	3	3	2	1	1	1	
Golden Russet (N. Y.).....	Medium	Russet	March to May	Very good	5	5	5	5	5	5	
Golden Sweet.....	Medium to large	Yellow	Late fall	Good	4	4	2	5	5	5	Good for baking.
Gravenstein.....	Large	Striped	Late fall	Very good	5	5	5	5	5	5	

Green Newtown Pippin	Large	Green	April to May	Very good	5	5	5	5	5	Forty dollars per barrel in New York.
Grimes' Golden Pippin	Medium	Yellow	Early winter	Best	5	5	4	5	5	
Hawley	Very large	Yellow	September	Good	4	4	3	4	4	
Hawthornden	Medium	Yellow	September	Good	5	3	2	4	5	
Holland Pippin	Large	Green	December	Good	4	3	1	3	5	
Hubbardsden	Medium	Brown	January	Very good	5	3	5	3	5	
Keswick Codlin	Medium	Yellow	September	Poor	3	3	3	2	1	
King of Tompkins Co.	Very large	Striped red	Winter	Good	5	4	3	3	4	
Lady	Small	Waxy yellow and red	January	Good	5	5	5	4	5	
Maiden's Blush	Medium	Yellow and red	Oct. and Nov.	Good	4	5	2	4	5	
Melon	Medium to large	Red	Nov. and Dec.	Very good	5	5	4	5	5	
Monmouth Pippin	Large	Yellow	November	Poor	3	4	3	3	4	
Newtown Spitzenburgh	Large	Reddish	October	Good	5	5	3	1	4	
devereux of N. Y.	Large	Red	Jan. and Mar.	Best	4	4	4	5	5	
Northern Spy	Large	Yellow and red	Winter	Best	5	5	2	5	5	
Ontario	Very large	Yellow	November	Good	4	4	5	4	3	
Pek's Pleasant	Large	Russet	Winter	Best	5	5	5	3	5	
Pomme Grise	Very small	Yellow	November	Good	4	3	3	4	4	
Porter	Medium	Yellow	October	Poor	5	4	2	2	1	
Pumpkin Russet	Large	Yellow russet	January	Good	5	5	4	4	2	
Rambos	Medium	Yellow striped	Aug. and Sept	Good	5	5	5	5	3	
Red Astrachan	Medium to large	Light crimson	October	Good	5	4	1	4	3	
Red Canada	Large	Red	Early winter	Very good	5	5	5	5	5	
Ribston Pippin	Large	Yellow, red, striped	Winter	Very good	5	5	5	5	3	
Rhode Island Greening	Large	Green	Winter	Good	4	3	2	4	5	
Roxbury Russet	Large	Russet	October	Good	5	4	4	3	4	
St. Lawrence	Medium	Striped	March	Very good	5	4	5	2	4	
Swan	Medium	Yellow	September	Good	4	4	4	3	2	
Sweet Bough	Large	Yellow	Winter	Very good	5	5	5	1	4	
Bough	Small	Orange russet	Winter	Good	4	4	1	4	2	
Swazie Pomme Grise	Medium	Yellow	Winter	Good	4	4	1	4	2	
Tahiti Sweet	Medium	Yellow	Winter	Good	4	4	1	4	2	
Twenty Ounce Cayuga Red	Very large	Striped	Fall	Very good	4	5	1	4	3	
Strick	Medium	Red	Winter	Very good	5	5	4	5	4	
Wager	Medium	Red	October	Good	5	3	3	3	4	
Wealthy	Medium	Red	Winter	Good	5	5	5	3	4	
Westfield Secknotruth	Medium	Russet	October	Good	3	4	5	2	2	
Winesap	Small	Red	November	Good	5	3	2	1	3	
Yellow Ballower	Medium	Yellow	November	Good	5	3	2	1	3	
<i>Crab Apples</i>										
Hyslop	Medium	Red	September	Good	5	3	4	3	1	
Large Yellow	Large	Yellow	September	Very good	5	3	4	3	1	
Siberian	Small	Yellow red	September	Good	5	5	2	3		
<i>Hudson</i>										
Alexander	Very large	Greenish yellow covered with red	Sept. and Oct.	Good	5	3	1	2	3	
American Golden Russet	Medium	Yellow and russet	Dec. to April	Best	5	5	4	2	5	
American Pippin (Grindstone)	Medium	Green-splashed red	Jan. to May	Good	5	4	5	2	2	

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION.
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.	
Huron.—Continued.										
American Summer Pearmain	Medium	Yellow and red.	Aug. and Sept.	Very good	5	3	3	1	3	
Arnold's Beauty	Medium	Yellow, red and russet	Dec. to April	Good	5	3	2	1	2	2
Bailey Sweet	Large	Yellow and red-splashed	Nov. to March	Good	5	4	2	2	1	
Baldwin	Large	Red and green	Dec. to March	Very good	4	5	4	4	5	5
Beauty of Kent	Very large	Green and yellow striped with red	Sept. and Oct.	Good	5	4	4	2	1	
Belmont	Large	Waxen yellow and red cheek	Nov. to Feb.	Good	5	3	2	2	2	1
Ben Davis	Medium	Yellow and red	Jan. to March	Good	5	4	1	2	2	4
Bonomi	Small	Yellow and red	August	Very good	5	3	3	2		
Black Gilliflower	Medium	Dull red.	Dec. to Feb.	Good	5	5	2	3	1	2
Blenheim Pippin	Large	Orange and red striped.	Oct. to Jan.	Good	5	4	4	4	3	4
Blue Pearmain	Large	Dark red.	Nov. to Feb.	Good	5	3	3	2	2	3
Bottle Greening	Medium	Green and yellow	Dec. to Feb.	Good	5	3	1	3	2	1
Bourassa	Medium	Orange, russet and yellow.	Nov. and Dec.	Good	5	3	2	2	2	4
Keeps much longer, but becomes tough and flavoured.										
Cabashira (Twenty oz. Pippin)	Very large	Green and yellow	Dec. to Feb.	Poor	3	4	3	2	3	
Canada Baldwin	Medium	White and red	Dec. to April	Very good	5	4	4	4	3	4
Canada Remette	Large	Green, yellow and brown	Dec. to April	Very good	5	4	2	3	2	3
Chenango Strawberry	Medium	White and red	September	Good	5	4	3	1	3	
Colvert	Large	Yellow and red striped	Oct. and Nov.	Good	5	5	2	4	3	4
Cooper's Market	Medium	Yellow and red	Dec. to April	Good	5	5	3	2	2	3
Cornish Gilliflower	Medium	Green and yellow	Dec. to March	Good	4	2	2	2	1	1
Cox's Orange Pippin	Medium	Yellow and red	Sept. and Oct.	Very good	5	4	3	2	3	2
Cranberry Pippin	Medium	Yellow and red	Nov. to Feb.	Good	5	3	1	3	3	1
Dominion	Medium	Green and red.	Dec. to April	Very good	4	5	3	1	2	3
Drop D'Or	Large	Yellow	September	Good	5	2	2	3	2	
Detroit Black	Large	Dark red	September	Poor	4	2	1	1		
Duchess of Oldenburgh	Medium	Yellow and red	July and Aug.	Good	5	5	1	5	5	3
Dutch Magnum	Medium	Yellow and red.	Dec. to March	Good	5	4	2	3	3	2
Dyer (Pomme Royal)	Medium	Green, yellow and red striped	Sept. and Oct.	Very good	5	3	3	1	2	
Early Harvest	Medium	Greenish yellow	July	Good	5	3	3	1	3	
Early Joe	Small	Yellow and red	August	Very good	5	3	1	1	2	
Early Strawberry	Small	Striped red	August	Very good	5	3	3	1	3	

English Russet.	Medium.	Light russet.	Jan. to May.	Good	5	5	3	1	2	3	There are four russets wrongly called "English Russet." 3 Generally unprofitable, as it is so shy a bearer.	
					4	2	5	4	4	5		
Esopus Spitzenburgh	Medium	Green and red	Dec. to March	Best	5	5	1	3	1	3	Spots badly with fungus.	
Fallwater	Very large	Greenish yellow	Dec. to Feb.	Good	5	5	1	3	1	3		
Fall Penned	Large	Green and yellow	Sept. and Oct.	Good	5	5	1	3	2	1		
Fall Pippin	Large	Green and yellow	Oct. to Dec.	Very good	5	4	2	4	3	1		
Famuse (Snow)	Medium	Green and red	Oct. to Jan.	Very good	5	5	1	4	3	2		
Famuse Spitzenburgh	Medium	Red	Nov. to Feb.	Good	5	5	1	4	3	4		
Gloria Mundi	Very large	Greenish yellow	Nov. to Jan.	Good	5	2	3	2	1	1		
Golden Russet (N. Y.)	Medium	Russet	Dec. to March	Very good	5	4	4	1	3	4		
Golden Sweet	Large	Yellow	Aug. and Sept.	Good	5	5	1	3	3	1		
Grand Sultan	Very large	Green and red	September	Good	5	4	1	1	3	2		
Gravenstein	Large	Yellow and red	Sept. and Oct.	Very good	5	4	4	1	3	2		
Green Newtown Pippin	Medium	Green	Dec. to May	Best	4	2	5		2	5	Can only get clean specimens on good clay loam, well underdrained and cultivated and regularly salted. In general cultivation and soil it is covered with fungus spotting.	
Grimes' Golden Pippin	Medium	Yellow	Dec. to March	Very good	5	5	5		3	4		
Hawes' Fall Queen	Medium	Green, yellow and red	Sept. and Oct.	Good	5	4	3	3	3	1		
Hawes	Large	Yellow	September	Good	4	3	2	3	2			
Hawthorn	Medium	Yellow red cheek	September	Good	4	5	1	3	3			
Holland Pippin	Large	Green and yellow	Sept. to Nov.	Good	4	3	1	4	3	1	Even lights on very light cultivated soil subject to fungus to those	
Hubbardston Non-such	Large	Yellow and red	Nov. to Jan.	Very good	5	4	3	3	4			
Irish Peach	Medium	Yellow, green and red	August	Good	4	3	2	3	2			
Jersey	Medium	Yellow and red	Sept. and Oct.	Good	5	5	1	3	3			
Jersey Sweeting	Medium	Green, yellow and red striped	Sept. and Oct.	Good	5	4	3	2				
Jonathan	Medium	Yellow and red	Dec. to March	Very good	5	4	3	1	3	3		
Kentish Fillbasket	Very large	Yellow and red striped	Sept. and Oct.	Good	5	4	1	3	3			
Keweenaw Collin	Medium	Green and yellow	Aug. to Oct.	Good	5	5		5	3			
King of Tompkins Co.	Large	Yellow and red	Nov. to Feb.	Very good	5	4	1	4	1	5		
Lady	Small	Yellow and red	Dec. to April	Very good	5	5	5	2	4	5		
Late Strawberry	Medium	Light green and red	Oct. to Dec.	Very good	5	4	1	1	3	3		
Lord Suffield	Large	Yellow and red	Aug. and Sept.	Good	5	5	1	3	3	1		
London Pippin	Large	Yellow and red	Nov. to Jan.	Good	5	3	1	3	3	1		
Lowell	Large	Light yellow	September	Good	4	4	2	2	2			
Madison's Blush	Medium	Green, yellow, red cheek	Sept. and Oct.	Good	5	4		4	4	3		
Mann	Medium	Dark green and yellow when ripe	Jan. to April	Very good	5	4	3	4	3	4	Coming in favour.	
Melba	Medium	Yellow and red	Nov. to Feb.	Best	4	4	5	3	3	1		
Minister	Large	Green, yellow and red striped	Oct. to Jan.	Good	5	5	3	2	1			
Monmouth Pippin	Large	Yellow and red	Nov. to Feb.	Good	5	4	2	3	3	1		
Mother	Medium	Yellow and red	Nov. to Feb.	Best	4	4	2	3	3	3		
Musson's Sweet	Medium	Yellow	Oct. to Feb.	Good	5	5		3	1			
Newtown Spitzenburgh	Medium	Yellow and red	Nov. to Feb.	Best	5	3	1	4	1	5		
devere of N. Y.	Large	Green and red	Dec. to March	Best	5	3	5	4	5	5		
Northern Spy	Large	Green and red	Dec. to March	Very good	5	4	1	5	3	4	Likely to improve and become popular for export.	
Ontario	Medium	Green and yellow	Dec. to March	Very good	4	4	3	3	3	2		
Pack's Pleasant	Medium	Red and yellow	Nov. to March	Good	5	5	2	3	3	4		
Pemec	Large											

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Cooking.	Home Market.	Foreign Market.	
Huron.—Continued.										
Pewaukee	Large	Yellow and red striped	Dec. to April	Good	5	4	3	2	3	
Phoenix	Large	Yellow and red striped	Dec. to March	Good	5	4	3	3	4	
Pomme Grise	Small	(Green, russet and bluish cheek	Dec. to March	Very good	5	4	4	2	3	
Porter	Medium	Yellow	Oct. to Dec.	Very good.	5	4	3	3	2	
Priestly	Large	Red and green	Dec. to Feb.	Poor	4	4	1	2	1	
Primate	Medium	Light-green	Aug. to Oct. 1	Very good	5	5	4	3	4	
Pumpkin Russet	Large	(Greenish russet)	Sept. to Dec.	Good	4	3	1	3	3	
Rainbo.	Medium	Light-green and red	Nov. to Jan.	Good.	5	5	3	2	2	Water-cores badly and also spots in old un-cultivated trees.
Rawles Janet	Large	Yellow and red.	Jan. to May.	(Good	5	3	2	3	3	
Red Astrachan	Large	Red	August.	(Good.	5	4	1	4	3	Will soon be entirely supplanted by Duchessa.
Red Canada	Medium	Yellow and red.	Dec. to April	(Good	4	5	3	4	3	
Red Russet.	Large	Light russet	Dec. to March	Good	5	4	3	4	4	
Ribston Pippin	Medium	Dull orange	Nov. to March	Very good	5	3	4	4	4	
Rhode Island Greening	Large	Green	Nov. to March	Very good	5	4	4	5	4	Subject to spotting unless soil well drained and rich.
Roxbury Russet	Medium	(Green and russet	Jan. to May	Good	5	4	4	3	4	
Scarlet Pearmain	Medium	Red and yellow.	Aug. and Sept.	(Good	5	4	3	3	1	
Shiawassa Beauty	Medium	Red and yellow.	Oct. to Dec.	(Good	5	4	2	3	4	
Smokehouse	Medium	Yellow and red	Sept. to Feb.	(Good	4	4	1	3	2	
Sops of Wine	Medium	Red and yellow.	September	(Good	4	4	3	2		
St. Lawrence	Large	Green and red striped	Sept. to Nov.	(Good	5	4	2	4	3	
Summer Rose	Small	Yellow and red splashed	August.	Very good	4	5	3	1	2	
Swan	Medium	Yellow when ripe.	Dec. to Feb.	Very good	3	3	5	2	4	
Swayzie Pomme Grise	Small	Light russet	Jan. to June	Best	5	3	5	3	5	
Tahiti Sweet	Medium	Green and yellow.	Nov. to March	(Good	5	5	1	4	2	
Tetofsky	Medium	(Green and red striped	August	Poor	5	5		3	1	
Twenty Ounce (Cayuga Red	Large	Green and red striped.	Oct. to Jan.	(Good	5	4	2	5	3	
streak	Medium	Yellow and red	Nov. to Jan.	(Good	3	2	1	4	3	
Vandevere	Medium	Light-green and red	Dec. to Feb.	Very good	5	5	4	4	4	
Wagner	Medium	Red	Nov. to Feb.	Very good	5	4	4	4	4	
Wealthy	Medium	(Green and red	Nov. to Feb.	Very good	5	4	4	4	4	
Westfield Seekno further	Medium	Yellow and red	Dec. to April	Good	5	4	3	4	2	One of the best for cider.
Winesap	Medium									

Yellow Bellflower	Large	Yellow	.....	Dec. to Feb	Good	5	3	3	4	3	2
<i>Crab Apple.</i>											
Hyslop	Large	Dark-red	.....	Oct to Nov	Good	5	5	4	3		
Large Red	Large	Yellow and red	.....	November	Good	5	4	3	2		
Large Yellow	Large	Yellow	.....	November	Good	5	4	2	1		
Marengo	Large	Yellow and red	.....	Dec. to Feb.	Hardly good	5	4	1	1		
Montreal Beauty	Large	Yellow and red	.....	Sept. and Oct.	Good	3	4	5	4		
Transcendent	Medium	Golden yellow	.....	September	Good	5	4	4	3		
Subject to blight											
Butte.											
Alexander	Very large	Greenish yellow, covered with red	.....	Sept. and Oct	Good	5	3	1	3	4	
American Golden Russet	Medium	Yellow and russet	.....	Dec. to April	Best	5	5	5	3	4	5
American Pippin (Grindstone)	Medium	Green and red	.....	Jan. to May	Good	4	3	3	1	2	
American Summer Pearmain	Medium	Yellow and red	.....	Aug. and Sept.	Very good	4	3	3	1	3	
Bailey Sweet	Large	Yellow and red	.....	Nov. to Mar	Good	5	3	2	1		
Baldwin	Large	Red and green	.....	Dec. to Mar	Very good	3	1	4	5	5	
Beauty of Kent	Very large	Green, yellow and red	.....	Sept. and Oct	Good	4	3	4	2		
Belmont	Large	Waxen yellow	.....	Nov. to Jan.	Good	4	3	2	1	1	
Ben Davis	Medium	Yellow and red	.....	Dec. to Mar	Good	5	1	2	2	4	
Bonnet	Small	Yellow and red	.....	Aug.	Very good	4	3	3	2		
Blenheim Pippin	Large	Orange	.....	Oct. to Jan.	Good	5	4	4	4	4	
Cassia (Twenty Oz. Pippin)	Very large	Green and yellow	.....	Dec. to Feb.	Poor	5	5	1	4	2	3
Canada Renette	Large	Green and yellow	.....	Dec. to April	Very good	4	4	2	3	2	3
Chenango Strawberry	Medium	White and red	.....	September	Good	5	4	3	2	3	
Columbia	Large	Yellow and red	.....	Oct. and Nov	Good	5	5	3	4	3	3
Cornish Gill flower	Medium	Green and yellow	.....	Dec. to Mar	Good	4	2	2	2	1	1
Duchess	Large	Yellow	.....	September	Good	4	2	2	3	2	
Duchess of Edinburgh	Large	Dark red	.....	September	Poor	4	2	1	1		
Early Harvest	Medium	Yellow and red	.....	July and Aug	Good	5	5	2	3	5	
Early Joe	Small	Greenish yellow	.....	July	Good	5	4	3	2	2	
Early Strawberry	Small	Yellow and red	.....	August	Very good	4	3	4	2		
English Russet	Small	Striped red	.....	August	Very good	4	3	3	1	3	
Esopus Spitzenburgh	Medium	Light russet	.....	Jan. to May	Good	5	4	3	1	2	3
Fallwater	Medium	Green and red	.....	Dec. to Mar	Best	4	2	5	4	5	
Fall Jonneting	Very large	Greenish yellow	.....	Dec. to Feb.	Good	5	4	1	3	1	3
Fall Pippin	Large	Green and yellow	.....	Sept. and Oct	Good	4	4	1	3	2	1
Fameuse (Snow)	Medium	Green and yellow	.....	Oct. to Dec	Very good	5	4	3	4	3	1
Flushing Spitzenburgh	Medium	Green and red	.....	Oct. to Jan	Very good	5	5	4	3	4	2
Gloia Mudi	Medium	Red	.....	Nov. to Feb	Good	4	3	3	1	3	4
Gravenstein	Very large	Greenish yellow	.....	Nov. to Jan.	Poor	5	2	3	3	2	1
Green Newtown Pippin	Large	Yellow and red	.....	Sept. and Oct.	Very good	5	4	4	4	3	5
Grimes' Golden Pippin	Medium	Green	.....	Dec. to May	Best	4	2	5	2	5	3
Hawley	Medium	Yellow	.....	Dec. to Mar	Very good	4	4	5	3	4	
Hawthornden	Large	Yellow	.....	September	Good	4	3	2	3	2	
H Red Pippin	Medium	Yellow and red	.....	September	Good	4	5	1	3	3	1
	Large	Green and yellow	.....	Sept. to Nov	Good	4	3	1	4	3	

COUNTY REPORT ON VARIETIES OF APPLES GROWN IN ONTARIO.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS, SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.	
BRUCE—Continued.										
Hubbardston Nonesuch	Large	Yellow and red	Nov. to Jan.	Very good	5	4	4	3	3	4
Jonathan	Medium	Yellow and red	Dec. to Mar.	Very good	4	4	3	1	3	3
Kentish Filbasket	Very large	Yellow and red	Sept. and Oct.	Good	5	4	4	4	3	
Keswick Codlin	Medium	Green and yellow	Aug. and Sept.	Good	4	4	4	5	3	
King of Tomkins County	Large	Yellow and red	Nov. to Feb.	Very good	4	4	4	4	5	
Late Strawberry	Medium	Light green and red	Oct. to Dec.	Very good	4	4	4	1	2	3
Maiden's Blush	Medium	Green, yellow, red	Sept. and Oct.	Good	5	4	1	4	4	2
15 Mann	Medium	Dark green, yellow when ripe	Jan. to April	Very good	5	4	3	4	3	4
22 Monmouth Pippin	Large	Yellow and red	Nov. to Feb.	Good	4	4	2	3	1	
Mother	Medium	Yellow and red	Nov. to Feb.	Best	3	4	4	2	3	3
Munson's Sweet	Medium	Yellow	Oct. to Feb.	Good	4	4	4	3	1	
Newtown Spitzenburgh (Vanderburgh of N. Y.)	Medium	Yellow and red	Nov. to Feb.	Best	5	3	4	4	4	5
Northern Spy	Large	Green and red	Dec. to Mar.	Best	5	3	5	5	5	5
Ontario	Large	Green and red	Dec. to Mar.	Very good	4	4	4	5	3	3
Peck's Pleasant	Medium	Green and yellow	Dec. to Mar.	Very good	3	4	3	3	3	2
Phoenix	Large	Yellow and red	Dec. to Mar.	Good	5	4	2	3	3	4
Pomme Grise	Small	Green russet and bluish red	Dec. to Mar.	Very good	5	3	4	2	3	
Porter	Medium	Yellow	Oct. to Dec.	Very good	4	4	3	3		
Primrose	Medium	Light green	Aug. to Oct.	Very good	4	4	4	3	4	1
Pumpkin Russet	Large	Green and russet	Sept. to Dec.	Good	4	3	1	3	3	2
Roubo	Medium	Light green and red	Nov. to Jan.	Good	4	4	3	2	2	
Red Astrachan	Large	Red	August	Good	5	4	1	4	3	
Red Canada	Medium	Yellow and red	Dec. to April	Good	4	5	3	4	3	4
Ridgton Pippin	Medium	Dull orange	Nov. to Mar.	Very good	4	3	4	4	4	4
Rhode Island Greening	Large	Green	Nov. to Mar.	Very good	5	4	4	4	4	4
Roxbury Russet	Medium	Green and russet	Jan. to May	Good	4	4	4	3	4	
St. Lawrence	Large	Green and red	Sept. to Nov.	Good	5	4	2	4	4	3
Sugar	Medium	Yellow	Dec. to Feb.	Very good	3	3	5	2	2	4
Sagayio Pomme Grise	Small	Light russet	Jan. to June	Best	5	2	5	3	5	
Talman Sweet	Medium	Green and yellow	Nov. to Mar.	Good	5	5	2	4	2	1
Twenty Ounce (Gayuga Red)	Large	Green and red	Oct. to Jan.	Good	5	4	2	5	3	3
Vanderwe	Medium	Yellow and red	Nov. to Jan.	Good	3	2	1	4	4	4

Wagever	Medium	Light green and red.	Dec. to Feb.	Very good	4 5 4 4 4 4
Westfield Seekoofurther	Medium	Green and red	Nov. to Feb.	Very good	5 4 4 4 3 4
Winesap	Medium	Yellow and red	Dec. to April	Good	4 4 3 4 2 3
Yellow Bellflower	Large	Yellow	Dec. to Feb.	Good	4 3 3 4 3 2
<i>Cash Apples</i>					
Hyslop	Large	Dark red	Oct. and Nov.	Good	5 5 4 3
Large Red	Large	Yellow and red	November	Good	5 4 3 2
Marino	Large	Yellow and red	Dec. to Feb.	Hardly good	1 4 1 1
Montreal Beauty	Large	Yellow and red	Sept. and Oct.	Good	1 4 5 4
Transcendant	Medium	Yellow	September	Good	5 4 4 3
<i>GREY</i>					
Alexander	Very large	(Greenish yellow, covered)	Sept. and Oct.	Good	5 4 2 4 3
American Golden Russet	Medium	Yellow and russet	Dec. to April	Best.	5 5 4 3 5 5
American Summer Pearmain	Medium	Yellow and red	Aug. and Sept.	Very good	3 3 3 1 3 5
Arnold's Beauty	Medium	Yellow, red and russet	Dec. to April	Good	4 3 2 2 2 2
Baldie Sweet	Large	Yellow and red	Nov. to March	Good	4 3 1 2 1 1
Baldwin	Large	Red and green	Dec. to March	Very good	1 5 4 4 4 5
Beauty of Kent	Very large	Green, yellow, red	Sept. and Oct.	Good	4 3 1 4 2 2
Belmont	Large	Waxy yellow	Nov. to Feb.	Good	3 3 2 2 2 1
Ben Davis	Medium	Yellow and red	Jan. to March	Good	5 4 2 2 2 4
Bentley	Small	Yellow and red	August	Very good	4 2 3 1 2 2
Black Gallflower	Medium	Pallid red	Dec. to Feb.	Good	4 4 2 2 1 2
Bonheim Pearmain	Large	Orange	Oct. to Jan.	Good	4 4 4 1 4 4
Blue Pearmain	Large	Dark red	Nov. to Feb.	Good	4 3 3 2 2 3
Bottle Greening	Medium	Green and yellow	Dec. to Feb.	Good	5 2 1 3 2 1
Burrows	Medium	Orange, russet and yellow	Nov. and Dec.	Good	4 3 2 2 2 4
Calisher Twenty Oz Pearmain	Very large	Green and yellow	Dec. to Feb.	Poor	5 4 1 3 2 3
Canada Reinette	Large	Green, yellow and brown	Dec. to April	Very good	5 3 8 3 2 3
Chenango Strawberry	Medium	White and red	September	Good	4 4 3 1 3 4
Colvert	Large	Yellow and red	Oct. and Nov.	Good	5 5 3 4 3 4
Copier's Market	Medium	Yellow and red	Dec. to April	Good	5 5 3 2 2 3
Crush Cellflower	Medium	Green and yellow	Dec. to March	Good	5 2 1 2 2 1
Duchess	Large	Yellow	September	Good	3 2 2 3 2 2
Duchess Black	Large	Dark red	September	Poor	5 2 1 1 1 1
Duchess of Oldenburgh	Medium	Yellow and red	July and Aug.	Good	5 5 1 5 5 5
Early Harvest	Medium	Greenish yellow	July	Good	5 3 3 2 3 3
Early Joe	Small	Yellow and red	August	Very good	4 3 3 2 2 2
Early Strawberry	Small	Striped red	August	Very good	4 3 3 3 3 3
Early Spitzelburg	Medium	Green and red	Dec. to March	Best.	4 2 5 4 4 5
Early Spitzelburg	Very large	Greenish yellow	Dec. to Feb.	Good	5 4 1 3 1 3
Early Spitzelburg	Large	Green and yellow	Sept. and Oct.	Good	4 3 2 3 2 1
Early Spitzelburg	Large	Green and yellow	Oct. to Dec.	Very good	5 4 2 4 3 1
Early Spitzelburg	Medium	Green and red	Oct. to Jan.	Very good	5 5 4 4 3 4
Early Spitzelburg	Medium	Red	Nov. to Feb.	Good	4 3 3 1 3 4
Early Spitzelburg	Very large	Greenish yellow	Nov. to Jan.	Poor	5 2 3 3 2 1

COUNTY REPORTS ON VARIETIES OF APPLE GROWN IN ONTARIO.

VARIETIES— (CLASSIFIED BY COUNTIES.)	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.						REMARKS, SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.	Foreign Market.	
GREY—Continued.											
Golden Russet (N. Y.)	Medium	Russet	Dec. to March.	Very good.	4	3	4	2	3	4	
Gravenstein	Large	Yellow and red	Sept. and Oct.	Very good	5	5	4	4	2		
Green Newtown Pippin	Medium	Green	Dec. to May.	Best.	4	5	5	5	5		
Grimes' Golden Pippin	Medium	Yellow	Dec. to March.	Very good.	4	4	5	4	4		
Hawley	Large	Yellow	September	Good.	3	3	2	3	2		
Hawthorn	Medium	Yellow and red	September	Good.	4	5	1	3	2		
Holland Pippin	Large	Green and yellow	Sept. to Nov.	Good.	4	3	1	4	3	1	
Hubbardston Nonesuch	Large	Yellow and red	Nov. to Jan.	Very good	5	4	4	3	3	4	
Kentish Fillbasket	Very large	Yellow and red	Sept. and Oct.	Good.	5	3	4	3			
Keswick Codlin	Medium	Green and yellow	Aug. to Oct.	Good.	5	4	5	3			
King of Tompkins Co.	Large	Yellow and red	Nov. to Feb.	Very good	4	3	4	4	5		
Lake Strawberry	Medium	Green and red	Oct. to Dec.	Very good	4	3	4	1	2	3	
Maiden's Blush	Medium	Green, yellow and red	Sept. and Oct.	Good.	5	4	0	4	4	3	
Mann	Medium	Yellow	Jan. to April	Very good	5	3	4	4	3	4	
Monmouth Pippin	Large	Yellow and red	Nov. to Feb.	Good.	5	3	2	3	3	1	
Mother	Medium	Yellow and red	Nov. to Feb.	Best.	4	3	4	2	3	3	
Munson's Sweet	Medium	Yellow	Oct. to Feb.	Good.	5	4	1	3	1		
Newtown Spitzenburgh (Van- devere of N. Y.)	Medium	Yellow and red	Nov. to Feb.	Best.	4	3	4	4	4	5	
Northern Spy	Large	Green and red	Dec. to March.	Best.	4	3	5	5	5		
Ontonario	Large	Green and red	Dec. to March.	Very good.	4	4	4	5	3	4	
Park's Pleasant	Medium	Green and yellow	Dec. to March.	Very good	5	3	3	3	2		
Pennock	Large	Red and yellow	Nov. to March.	Good	5	4	2	3	3	4	
Phoenix	Large	Yellow and red	Dec. to March.	Good.	5	4	2	3	3	4	
Pomme Grise	Small	Green, russet and bluish cheek	Dec. to March.	Very good	5	4	4	3	2	3	
Porter	Medium	Yellow	Oct. to Dec.	Very good.	5	4	3	3	3	2	
Primrose	Medium	Light green	Aug. to Oct.	Very good	5	4	4	3	4	1	
Pumpkin Russet	Large	Greenish russet.	Sept. to Dec.	Good	5	3	1	3	3	2	
Rambo	Medium	Light green and red	Nov. to Jan.	Good	5	5	3	2	2	1	
Rawles Janet	Large	Yellow and red	Jan. to May	Good.	4	3	2	3	3	3	
Red Astrachan	Large	Red	August	Good.	5	4	2	4	3		
Red Canada	Medium	Yellow and red	Dec. to April.	Good.	4	4	3	4	3	4	
Ribston Pippin	Medium	Dull orange.	Nov. to March	Very good	5	3	4	4	4	4	
Rhode Island Greening	Large	Green.	Nov. to March	Very good	4	4	4	5	4	4	

Name of Apple.	Size.	Color.	Season.	Quality.	Harvesting Period.											
					Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Roxbury Russet	Medium	Green and russet	Large	Good	Jan. to May	Good	Jan. to May	Good	Jan. to May	Good	Jan. to May	Good	Jan. to May	Good	Jan. to May	Good
St. Lawrence.	Large	Green and red	Large	Good	Sept. to Nov.	Good	Sept. to Nov.	Good	Sept. to Nov.	Good	Sept. to Nov.	Good	Sept. to Nov.	Good	Sept. to Nov.	Good
Swart	Medium	Yellow.	Medium	Good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good
Swaziye-Pomme Grise	Small	Light russet	Small	Good	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best
Tadman Sweet	Medium	Green and yellow	Medium	Good	Nov. to March	Good	Nov. to March	Good	Nov. to March	Good	Nov. to March	Good	Nov. to March	Good	Nov. to March	Good
Twenty Ounce (Cayuga Red)	Large	Green and red	Large	Good	Oct. to Jan.	Good	Oct. to Jan.	Good	Oct. to Jan.	Good	Oct. to Jan.	Good	Oct. to Jan.	Good	Oct. to Jan.	Good
Vandevere	Medium	Yellow and red	Medium	Good	Nov. to Jan.	Good	Nov. to Jan.	Good	Nov. to Jan.	Good	Nov. to Jan.	Good	Nov. to Jan.	Good	Nov. to Jan.	Good
Wagoner	Medium	Light green and red	Medium	Good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good	Dec. to Feb.	Very good
Westfield Stockmether	Medium	Green and red	Medium	Good	Nov. to Feb.	Good	Nov. to Feb.	Good	Nov. to Feb.	Good	Nov. to Feb.	Good	Nov. to Feb.	Good	Nov. to Feb.	Good
Yellow Bellefleur	Large	Yellow	Large	Good	Dec. to Feb.	Good	Dec. to Feb.	Good	Dec. to Feb.	Good	Dec. to Feb.	Good	Dec. to Feb.	Good	Dec. to Feb.	Good
<i>Early Apples.</i>																
Hyslop	Large	Dark red	Large	Good	Oct. and Nov.	Good	Oct. and Nov.	Good	Oct. and Nov.	Good	Oct. and Nov.	Good	Oct. and Nov.	Good	Oct. and Nov.	Good
<i>Summer Apples.</i>																
Alexander	Very large	Yellow and red	Very large	Good	Oct. to Jan.	Very good	Oct. to Jan.	Very good	Oct. to Jan.	Very good	Oct. to Jan.	Very good	Oct. to Jan.	Very good	Oct. to Jan.	Very good
American Golden Russet	Medium	Russet, yellow and red	Medium	Good	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best	Jan. to June	Best
American Pippin (Grindstone)	Medium	Green and brown	Medium	Good	Jan. to July	Good	Jan. to July	Good	Jan. to July	Good	Jan. to July	Good	Jan. to July	Good	Jan. to July	Good
American Summer Pearmain.	Medium	Red and yellow	Medium	Good	September	Good	September	Good	September	Good	September	Good	September	Good	September	Good
Arnold's Beauty	Large	Brown	Large	Good	March	Best	March	Best	March	Best	March	Best	March	Best	March	Best
Baldwin	Medium	Red	Medium	Good	February	Good	February	Good	February	Good	February	Good	February	Good	February	Good
Baldwin	Large to medium	Red and green	Large to medium	Good	March	Very good	March	Very good	March	Very good	March	Very good	March	Very good	March	Very good
Baldwin	Large	Yellow and light red	Large	Good	October	Good	October	Good	October	Good	October	Good	October	Good	October	Good
Ben Davis	Medium	Red	Medium	Good	Jan. to June	Good	Jan. to June	Good	Jan. to June	Good	Jan. to June	Good	Jan. to June	Good	Jan. to June	Good
Bononi	Medium	Yellow speckled	Medium	Good	December	Good	December	Good	December	Good	December	Good	December	Good	December	Good
Butte Greening	Large	Green	Large	Good	June and Feb.	Good	June and Feb.	Good	June and Feb.	Good	June and Feb.	Good	June and Feb.	Good	June and Feb.	Good
Burgess	Medium	Reddish russet	Medium	Good	March	Good	March	Good	March	Good	March	Good	March	Good	March	Good
Calvert	Large	Green and yellow	Large	Good	Oct. to Feb.	Very good	Oct. to Feb.	Very good	Oct. to Feb.	Very good	Oct. to Feb.	Very good	Oct. to Feb.	Very good	Oct. to Feb.	Very good
Delicious of Oldenburgh.	Medium to large	Yellow, streaked with red	Medium to large	Good	September	Very good	September	Very good	September	Very good	September	Very good	September	Very good	September	Very good
Early Harvest	Small to medium	Yellow	Small to medium	Good	August	Good	August	Good	August	Good	August	Good	August	Good	August	Good
Early Joe	Small	Green, streaked with red	Small	Good	September	Good	September	Good	September	Good	September	Good	September	Good	September	Good
Early Strawberry	Medium	Red and crimson	Medium	Good	September	Good	September	Good	September	Good	September	Good	September	Good	September	Good
Esopus Spitzenburgh	Medium	Red and yellow	Medium	Good	January	Best	January	Best	January	Best	January	Best	January	Best	January	Best
Full Pippin.	Large	Green and yellow	Large	Good	October	Good	October	Good	October	Good	October	Good	October	Good	October	Good
Fameuse (Snow)	Medium	Red	Medium	Good	Dec. to Feb.	Best	Dec. to Feb.	Best	Dec. to Feb.	Best	Dec. to Feb.	Best	Dec. to Feb.	Best	Dec. to Feb.	Best
Glenn Maudslayi	Large	Green	Large	Good	October	Very good	October	Very good	October	Very good	October	Very good	October	Very good	October	Very good
Golden Russet (N. Y.)	Medium to small	Yellow and russet	Medium to small	Good	April to July	Very good	April to July	Very good	April to July	Very good	April to July	Very good	April to July	Very good	April to July	Very good
Golden Sweet.	Medium	Yellow	Medium	Good	September	Good	September	Good	September	Good	September	Good	September	Good	September	Good
Gravenstein	Medium	Red and green	Medium	Good	January	Best	January	Best	January	Best	January	Best	January	Best	January	Best
Grimes' Golden Pippin	Medium	Yellow	Medium	Good	January	Very good	January	Very good	January	Very good	January	Very good	January	Very good	January	Very good
Hag.	Medium	Red-striped	Medium	Good	November	Good	November	Good	November	Good	November	Good	November	Good	November	Good
Holland Pippin	Large	Yellow and red	Large	Good	Oct. to Dec.	Good	Oct. to Dec.	Good	Oct. to Dec.	Good	Oct. to Dec.	Good	Oct. to Dec.	Good	Oct. to Dec.	Good

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO. —Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. Soil, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Cooking.	Home Market.	Foreign Market.	
Hurlbut	Medium	Green	January.	Best	2	1	5	3	5	Think will do well here, but wants further trial; a shy bearer.
Jush Peach	Medium	Yellow	August.	Good	4	1	3	4	4	
Jersey Sweeting	Medium	Green	October.	Good	1	1	4	3	3	
Jonathan	Medium to small	Yellow and red	Dec. to March.	Good	4	5	4	2	3	Succeeds well here; a good winter apple.
Kentish Filbasket	Very large.	Yellow	September	Good	3	3	4	1	1	
Keswick Codlin	Medium	Yellow	September	Good	4	3	2	3	4	
King of Tompkins Co.	Large	Green and striped red	Nov. to Jan.	Good	4	4	1	4	5	A failure with some, and does well with others.
Late Strawberry	Medium	Yellow striped	Oct. to March.	Good	4	4	1	3	4	
Lowell	Large	Yellow	October	Good	4	1	2	5	1	
Madden's Blush	Medium	Yellow red cheek	Nov. to Jan.	Very good	4	3	3	4	4	
Mackintosh Red	Medium	Red	March	Very good	5	4	1	3	5	
Munson's Sweet	Large	Green	October	Good	3	3	2	2	2	
Newtown Spitzelburgh (Van devere of N. Y.)	Medium to large	Red and yellow.	Oct. to Feb.	Best	3	2	4	4	5	
Northern Spy.	Large	Yellow, green and red.	Jan. to May.	Best	5	4	4	5	5	
Ontario	Medium	Yellow with striped red	Jan. to April.	Best	5	5	4	5	5	Not sufficiently tested here at present.
Pock's Pleasant	Large	Green	January	Good	5	5	3	4	4	
Pewaukee	Medium	Yellow	September	Good	4	1	4	1	1	
Pomine Grise	Small	Yellow russet	June	Best	4	5	4	4	4	
Porter.	Medium	Yellow	September	Very good	5	5	4	5	4	
Pumpkin Russet	Large	Brown	October	Good	3	3	1	2	3	
Rambou.	Small	Green	March.	Very good	1	1	2	3	4	
Red Astrachan	Medium to large.	Red and green	August.	Best	5	5	4	5	5	Has done exceedingly well, when top-grafted.
Red Bellflower	Medium to large.	Green and red	Nov. to March	Good	5	5	3	1	5	
Ribston Pippin.	Medium	Yellow red russet	Dec. to March	Very good	3	3	5	3	4	Trees fail on light soils.
Rhode Island Greening	Medium	Green	February.	Very good	3	3	3	4	4	
Roxbury Russet	Medium	Russet	June.	Good	3	3	3	1	5	Needs to be further tested.
Sinclair or Red Pound	Large to very large	Red and brown	Jan. to May	Good	5	1	3	1	5	
St. Lawrence	Medium large	Green streaked with crimson	Sept. and Oct.	Very good	5	5	3	5	5	
Sweet Bough (Large Yellow Bough).	Large	Yellow	September	Very good	3	2	3	4	5	
Sweyze's Pomme Grise.	Medium small	Russet	June	Best	5	5	5	5	5	

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.						REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Cooking.	Home Market.	Foreign Market.		
YORK—											
Alexander	Very large	Striped	Fall	Good	4	3	2	5	1		
American Golden Russet	Medium	Russet	Winter	Good	5	5	5	5	5		
Bailley Sweet	Very large	Striped	Early winter	Good	4	5	2	1	2	3	
Baldwin	Large	Brown red	Late winter	Good	1	5	5	5	5		
Ben Davis	Large	Striped	Winter	Poor	5	5	2	2	3	4	
Bononi	Medium	Deep red	August	Good	3	3	4	5	3		
Canada Reinette	Very large	Green yellow	May	Good	3	4	1	4	3		
Culvert	Large	Striped	November	Very good	5	5	3	5	4		
Duchess of Oldenburgh	Medium to large	Striped	September	Very good	5	5	5	5	3		
Early Harvest	Medium	Yellow	August	Good	5	3	5	3	3		
Empress Spitzenburgh	Medium	Red	April	Best	5	2	5	5	4		
Fallowater	Very large	Dull red	February	Good	3	4	1	4	3		
Fall Jemmett	Large	Green yellow	November	Good	4	5	2	5	3		
Fall Pippin	Very large	Yellow	December	Very good	5	4	1	5	4		
Famouse (Snow)	Medium	Red	January	Good	5	5	5	2	3		
Gloria Mundi	Very large	Green	February	Good	4	3	1	4	3		
Gravenstein	Large	Striped	October	Very good	4	4	1	5	3		
Grimes' Golden Pippin	Medium	Yellow	April	Very good	5	3	2	4	4		
Haas	Medium	Red	January	Good	4	5	3	4			
Hastings	Medium	Yellow	February	Good	5	4	3	5			
Hulbardston Nonesuch	Large	Striped	May	Good	3	4	2	4	5		
Kentish Fillbasket	Very large	Yellow	January	Very good	4	4	3	5	5		
Keswick Codlin	Large	Yellow	September	Good	4	5	4	5	4		
King of Tompkins Co.	Large	Striped	May	Good	4	4	3	4	4	3	
Lady	Small	Yellow	May	Very good	3	5	5	4			
Madden's Blush	Medium to large	Yellow	January	Good	5	5	3	5	3		
Mann	Medium										
Northern Spy	Large	Striped	June	Best	5	5	4	5	5	4	
Pomme Grise	Small	Russet	May	Very good	5	5	5	1	3	5	
Pumpkin Russet	Medium	Russet	March	Good	5	4	2	2	3		
Rambou	Medium	Streaked	February	Good	3	3	4	4	3		
Red Astrachan	Large	Red	August	Best	5	5	3	5	5		
Red Canada	Medium	Red	May	Very good	5	4	2	5	5		
Ribston Pippin	Large	Yellow russet	February	Good	4	4	4	3	4	5	

Rhode Island Greening	Large	Green	May	Very good	3	5	2	5	4
Roxbury Russet	Medium	Russet	July	Poor	3	4	1	3	3
St. Lawrence	Large	Straked	November	Good	5	1	1	4	4
Sweet Bough (Large Yellow Rough)	Large	Yellow	September	Good	4	5	1	2	3
Swayzie Pomme Grise	Small	Russet	June	Best	5	5	5	1	4
Tainan Sweet	Medium	Yellow	May	Good	4	5	3	4	
Tetonsky	Medium	Yellow	August	Very good	5	4	3	5	4
Twenty Ounce (d'ayuga Red streak)	Very large	Straked	January	Good	3	4	2	5	3
Wagener	Medium	Red	April	Very good	3	5	4	5	4
Wadthay	Medium	Red	February	Very good	5	1	5	3	4
Westfield Soekno further	Medium	Straked	February	Very good	3	5	4	1	3
Yellow Bellflower	Large	Yellow	April	Good	4	4	2	5	3
Chab. Apples.									
Hishop	Large	Red	December	Good	5	3			
Transcendant	Large	Yellow	October	Very good	5	5			
SOUTH ONTARIO									
Alexander	Very large	Red	October	Good	4	4	3	3	4
American Golden Russet	Medium	Russet	February	Best	1	4	1	3	5
American Pippin (Greenstone)	Medium	Red	March	Poor	4	4	1	4	4
Baldwin Sweet	Large	Red	December	Good	4	3	2	1	3
Baldwin	Large	Red	January	Very good	4	4	3	3	5
Beauty of Kent	Very large	Yellow	October	Good	4	3	2	4	4
Ben Davis	Large	Red	February	Poor	4	4	2	5	5
Bloom	Medium	Red	August	Good	4	3	3	3	3
Black Goldflower	Small	Brown	December	Poor	1	2	1	2	2
Blenheim Pippin	Large	Yellow	October	Good	4	3	3	3	3
Blue Pearmain	Large	Brown	November	Good	4	3	2	4	4
Butte Greening	Medium	Green	January	Good	1	3	3	3	3
Canada Twenty oz. Pippin	Very large	Green	December	Very good	1	3	4	4	4
Canada Renette	Large	Green	December	Good	4	3	3	4	4
Carolina Red June	Medium	Red	August	Good	4	3	4	3	3
Chenango Strawberry	Medium	Red	September	Very good	4	4	4	4	4
Colvert	Large	Green	October	Very good	4	4	4	4	4
Cooper's Market	Medium	Red	December	Good	4	4	3	3	3
Corush Goldflower	Medium	Green	November	Very good	4	3	4	3	3
Crabtree Pippin	Medium	Yellow	November	Very good	1	3	4	3	3
Dray Doh	Large	Yellow	September	Good	4	3	2	4	4
Detroit Black	Medium	Brown	October	Good	3	4	3	2	2
Duchess of Oldenburgh	Medium	Yellow	October	Good	4	4	3	4	4
Early Harvest	Medium	Yellow	September	Good	4	4	3	4	4
Early Joe	Medium	Red	August	Best	4	4	5	4	4
Early Strawberry	Medium	Yellow	August	Very good	4	3	4	3	3
Esopus Spitzenburgh	Medium	Red	August	Very good	4	4	4	3	3
Fullwater	Very large	Red	November	Best	2	2	5	4	4
			November	Good	5	4	3	4	4

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—Continued.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
SOUTH ONTARIO—Continued.											
Fall Jenneting.	Large.	Green.	November.	Very good.	5	4	4	4	3	3	
Fall Pippin.	Very large.	Yellow.	October.	Very good.	4	4	4	4	4	4	
Faneuse (Snow).	Medium.	Red.	November.	Best.	5	4	5	5	4	4	
Flushing Spitzenburgh.	Medium.	Red.	November.		3	3	4	4	4	4	
Gloria Mundi.	Very large.	Yellow.	December.	Good.	1	3	3	3	4	4	
Golden Russet (N.Y.)	Small.	Russet.	November.	Best.	4	4	5	4	5	5	
Golden Sweet.	Large.	Yellow.	August.	Very good.	4	4	4	2	3	3	
Gravenstein.	Large.	Yellow.	September.	Very good.	4	4	4	4	4	4	
Haws.	Medium.	Green.	September.	Good.	4	5	4	4	4	4	
Hawthornden.	Medium.	Yellow.	October.	Good.	4	3	4	3	3	3	
Hubbardston Nonesuch.	Large.	Brown.	November.	Good.	4	1	1	3	4	4	
Jersey Sweeting.	Medium.	Red.	September.	Very good.	4	3	3	2	3	3	
Jonathan.	Medium.	Yellow.	November.	Good.	4	3	3	3	3	3	
Kentish Fillbasket.	Very large.	Yellow.	November.	Good.	3	3	3	4	4	4	
Keswick Codlin.	Medium.	Green.	October.	Good.	4	3	2	3	2	2	
King of Tompkins Co.	Large.	Red.	November.	Best.	4	4	5	5	5	5	
Lady.	Small.	Yellow.	December.	Very good.	4	4	3	2	1	1	
Late Strawberry.	Medium.	Red.	November.	Very good.	5	4	4	4	4	4	
Maiden's Blush.	Medium.	Yellow.	September.	Good.	4	4	3	4	3	3	
Monmouth Pippin.	Large.	Green.	March.	Good.	4	4	3	4	4	4	
Munson's Sweet.	Large.	Yellow.	October.	Good.	4	3	3	1	2	1	
Northern Spy.	Large.	Green.	November.	Very good.	4	4	4	4	5	5	
Ontario.	Medium.	Yellow.	November.	Very good.	4	3	3	3	4	4	
Peck's Pleasant.	Large.	Yellow.	November.	Good.	4	4	3	4	4	4	
Pomme Grise.	Small.	Russet.	November.	Very good.	4	3	4	3	3	3	
Porter.	Medium.	Yellow.	September.	Best.	4	4	4	4	4	4	
Primpe.	Large.	Yellow.	August.	Best.	4	4	5	5	1	4	
Pumpkin Russet.	Large.	Yellow.	October.	Good.	4	3	3	1	3	3	
Rambo.	Medium.	Yellow.	December.	Good.	3	3	3	3	2	2	
Red Astrachan.	Large.	Red.	August.	Good.	5	1	3	4	3	3	
Red Canada.	Medium.	Red.	January.	Good.	4	4	3	4	4	4	
Ribston Pippin.	Large.	Yellow.	November.	Very good.	4	3	4	4	4	4	
Rhode Island Greening.	Large.	Green.	December.	Best.	5	5	5	5	4	4	

No sale for this apple here last fall; barrels lay on the ground and rotted.

No sale for this apple here last fall; barrels lay on the ground and rotted.

Variety	Size	Colour	Season	Quality	Harvest				
					1	2	3	4	5
Roxbury Russet	Medium	Brown	December	Good.	4	5	1	1	5
Sops of Wine	Medium	Red	August	Good	4	4	1	3	3
St. Lawrence	Large	Red	October	Very good	1	3	3	1	4
Sweet Bough (Large Bough)	Large	Yellow	December	Best	4	3	5	1	4
Requires the best of cultivation.									
Swayzie Pomme Grise	Small	Russet	August	Very good	1	3	4	3	3
Tahiti Sweet	Medium	Yellow	December	Best	1	1	5	5	5
Tetofsky	Medium	Yellow	July	Very good	5	5	4	5	4
Twenty Ounce (Gayuga Red streak)	Very large	Yellow	November	Good	1	1	3	2	3
Vanderwerf	Medium	Yellow	December	Good	4	3	3	5	5
Wagener	Medium	Red	December	Very good	4	4	3	3	4
The fruit on these trees want to be thinned out to get the best results.									
Wallbridge	Medium	Yellow	March	Good	5	4	3	3	3
Walthy	Medium	Yellow	December	Very good	4	5	3	3	4
Westfield Seckinathel	Medium	Russet	November	Good	4	4	3	3	4
Williams' Favorite	Medium	Red	August	Good	4	3	3	3	3
Winesap	Medium	Red	December	Good	4	5	3	3	4
Yellow Bellflower	Large	Yellow	December	Very good	1	4	4	1	1
Yellow Newtown Pippin	Large	Yellow	February	Very good	1	3	4	4	1
<i>Crab Apples.</i>									
Hyslop	Large	Red	December	Very good	5	5	4	4	5
Large Red	Small	Red	September	Good	5	5	1	1	2
Large Yellow	Small	Yellow	September	Good	5	5	1	1	1
Marango	Large	Yellow	January	Good	5	4	2	3	3
Montreal Beauty	Large	Yellow	October	Very good	5	4	1	1	4
Transcendant	Very large	Yellow	September	Best	1	5	3	5	5
Whitney's No. 20	Large	Green	October	Good	5	4	3	3	3
This crab won't sell here, the colour is against it.									
Suberin	Small	Yellow	October	Poor	5	4	1	1	1
NORTH ONTARIO									
Alexander	Large	Yellow and red	Fall	Poor	1				
American Golden Russet	Small	Red and yellow russet	Jan. to May	Good	1	1			
Baldwin	Medium	Dark red	March	Good	1	1			
Ben Davis	Medium	Red	Feb. to July	Good	1	1			
Calvert	Medium	Yellow and red	November	Good	1	1			
Duchess of Oldenburgh	Medium to large	Yellow and red	Aug. and Sept.	Good	1	1			
Early Harvest	Medium	Yellow	July	Good	1	1			
Esopus Spitzenburgh	Large	Yellow and red	January	Good	1	1			
Famose Snow	Small	Red	December	Good	1	1			
Golden Russet (N.Y.)	Small	Yellow	Jan. to June	Good	1	1			
Gravenstein	Large	Yellow and red	October	Good	1	1			
Grimes' Golden Pippin	Medium	Yellow	February	Very good	1	1			
Haga	Medium to large	Yellow and red	November	Good	1	1			

Note. The apple is not extensively cultivated in North Ontario, though most farms have small orchards.

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO. *Continued.*

VARIETIES (CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
NORTH ONTARIO. <i>Continued</i>											
Hurlbut. King of Tompkins Co.	Medium Large	Yellow and red Red	December January	Good Best	1 1	1 1	1 1	1 1	1 1	1 1	Strong grower. Tender while young; a hard tree to grow in nursery.
Mann Northern Spy Pewaukee	Medium Large Medium	Green Red and green Yellow and red	Jan. to May Jan. to June Feb. to May	Good Very good Very good	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	1 1 1	Tree a good grower; stands the winter. The tree grows well here on any kind of good soil.
Pomme Grise Red Astrachan Ribston Pippin Rhode Island Greening Roxbury Russet	Small Medium Medium Large Large	Russet Yellow and red Green Yellow russet	February August January January June	Very good Good Very good Best Good	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	Does best on light soil.
St. Lawrence Tahitian Sweet Tetofsky Twenty (once of Canada Red streak) Wagner Walbridge Wealthy	Large Medium Medium Very large Small Medium Medium	Red and green Whitish yellow Whitish yellow Yellow and red Red and yellow Red Red	November March August Dec. to Jan January March January	Good Fair Poor Good Good Very good Good	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	1 1 1 1 1 1 1	Not much grown here; tree very hardy. Tree a good grower; seems perfectly hardy; new here. Does best on light soil.
Williams' Favorite Yellow Ballflower	Large Large	Red Yellow	August January	Good Very good	1 1	1 1	1 1	1 1	1 1	1 1	Does best on light soil.
<i>Crab Apples.</i>											
Hyslop. Transcendent	Large Large	Blue Red	October October	Very good Best	1 1	1 1	1 1	1 1	1 1	1 1	
FROSTENAC											
Alexander American Golden Russet	Very large Below medium	Red Dull yellow	October Oct. to Jan.	Good Best	2 5	4 5	1 5	6 5	5 5	5 5	Clay loam well drained; best winter apple for this country.

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO. — *Continued.*

VARIETIES, (CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS, SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
FRONTENAC—Continued.											
Montreal Beauty	Large	Yellow to red	Sept. and Oct.	Best	5	5	5	5	5	5	Clay loam.
Transcendant	Medium to large	Golden yellow to crimson	Sept. and Oct.	Good	5	5	5	5	5	5	"
Siberian	Small	Yellow	September	Very good	5	5	5	5	5	5	
LEEDS											
Alexander	Very large	Red	November	Good	5	5	5	5	5	3	
American Golden Russet	Medium	Russet	June	Best	5	3	4	2	4	4	
Barley Sweet	Large	Red	December	Good	5	4	3	4	4	3	
Baldwin	Large	Brown and red	March	Best	5	4	5	5	5	5	
Bon Davis	Medium	Light red	March	Good	5	3	4	4	5	5	
Brenton	Medium	Red	October	Good	5	4	5	5	4	4	
Colvert	Large	Red cheek	December	Very good	5	4	5	5	5	5	
Duchess of Oldenburgh.	Large	Red and yellow	September	Good	5	5	3	5	5	3	
Early Harvest	Medium	Yellow	August	Very best.	5	5	5	5	4	3	
Early Joe	Small	Red and yellow	August	Very best.	5	5	5	5	4	3	
Early Strawberry	Medium	Red and yellow	September	Good	5	5	5	5	4	3	
Esopus Spitzenburgh	Medium	Red and green	June	Best	5	5	5	5	5	5	
Famouse (Snow)	Medium	Red	January	Best	5	5	5	5	5	5	
Golden Russet (N.Y.)	Small	Bright russet	June	Very best.	5	5	5	5	5	5	
Gravenstein	Large	Striped red	October	Very best.	5	4	5	4	5	5	
Maiden's Blush	Medium	Red and yellow	December	Very best.	4	5	5	5	5	3	
Melou	Medium	Yellow	April	Very best.	5	4	5	5	5	4	
Northern Spy	Large	Red	April	Very best.	5	4	5	5	5	5	
Red Astrachan	Medium	Red	August	Good	5	4	5	5	5	3	
Rhode Island Greening	Large	Green	April	Very best.	4	5	5	5	5	5	
St. Lawrence.	Large	Red and green	October	Very best.	5	5	5	5	5	5	
Tahiti Sweet	Medium	Yellow	April	Very best.	5	5	5	5	5	5	
Yellow Belleflower	Large	Yellow	April	Best	4	4	5	5	5	4	
Crab Apples.											
Hyslop	Medium	Dark red	October	Good	5	5	1	5	5	5	
Montreal Beauty	Large	Bright yellow	October	Good	5	5	1	5	5	5	
Transcendant	Large	Gold yellow	October		5	5	1	5	5	5	

DEEDS AND STORMONT

Alexander	Large	Red	March	Good	5	3	3	I have very good, grafted in old trees. White spotted. Very hardy and bears well. The best paying apple until those last two years they have spotted badly.
American Golden Russet	Medium	Grey	March	Good				
Red Ben	Very large	Brown	March	Good	5	4	4	
Ben Davis	Medium	Red	February	Good	5	3	4	
Belbel	Large	Red striped	March	Good	5	3	4	
Duchess of Oldenburg	Large	Red	September	Good	5	5	4	Not much grown yet. Spots and cracks bad. Stands the climate, but short lived White spots. Good apple and tree hardy, but does not bear well Short lived.
Early Harvest	Medium	Yellow	December	Best	5	5	5	
Famuse (Snow)	Medium	Red	December	Good	5	5	5	
Irish Peach	Medium	Brown	February	Good	5	4	4	
King of Tompkins Co.	Large	Yellow	January	Good	4	2		
Macdon's Blush	Medium	Red	January	Poor				About the best sweet apple. About the hardest winter apple.
Macintosh Red	Medium	Red	March	Very good	3	3	5	
Northern Spy	Very large	Red	March	Good	5	4	4	
Powankie	Large	Red striped	February	Good	5	3	5	
Pomine Grise	Small	Russet	February	Good	1	4		
Red Astrachan	Medium	Red	August	Good				The best.
Red Canada	Medium	Red	March	Very good	5	5	4	
St. Lawrence	Medium		September	Good	5	4	4	
Swaze Pomme Grise	Small	Russet	April	Very good	5			
Tolman Sweet	Medium	Yellow	February	Good	4	3	2	
Westhill Stockard	Medium	Brown	February	Good	5	4	4	Very hardy. Not sufficiently hardy except in favoured sections. Being introduced. Very hardy.
Yellow Bellflower	Medium	Yellow	February	Good	5	4	2	

Good Apples.

Transcendent Siberian.		Small			Poor			The best.	
Russet.									
Alexander	Very large	Red	September	Good	5	4	5	Very hardy. Not sufficiently hardy except in favoured sections.	
Buckville Beauty	Large	Red	September	Very good	4	4	4		
Duchess of Oldenburg	Large	Red check	September	Good	5	4	4		
Empress (Snow)	Small	Red	Oct. to Dec	Best	3	3	5		
Golden Pippin	Small	Russet	Winter	Best	4	5	4		
Red Ayrshire	Medium	Red	Aug. and Sept.	Very good	4	4	5	Being introduced. Very hardy.	
Red Sweet	Medium	Green	Oct. to May	Good	3	4	3		
Wentworth	Med. and large	Red and green	Sept. to Feb	Good	5	5	5		
Good Apples.									
Hals	Large	Red	Sept. to Nov.	Good	5	4	3	Not yet fruited.	
Matinee Beauty	Large	Red check	September	Good	5	4	3		
Matinee Beauty	Medium	Red check	September	Good	5	5	4		
Warwick No. 20	Very large								

COUNTY REPORTS ON VARIETIES OF APPLES GROWN IN ONTARIO.—*Concluded.*

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.						REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.	Foreign Market.	
RENFRW											
Alexander	Very large	Green and red	Sept. to Dec.	Fair	5	4	3	4	5		Canship to any part of province. Sells readily.
Canada Baldwin	Large to medium	Red cheek	Sept. to Nov.	Good	5	5	4	5	5		Being introduced.
Duchess of Oldenburgh	Small to medium	Red	Oct. to Dec.	Very best	3	3	5	2	5		Very hardy—very desirable in the north.
Famusee (SNOW).					5	4	4	4	4		Can be grown only in favoured sections in this county.
Grand Sultan	Medium to large.	Green.	Sept. and Oct.	Good.	5	4	4	4	4		Very hardy.
Haas											Too tender.
Hastings											Too tender.
Peach of Montreal	Medium to large.	Yellow.	Sept. and Oct.	Good.	5	4	4	3	4		Very hardy, easily bruised and shows the bruises badly.
Maiden's Blush											Too tender.
Mann	Medium	Red	Sept. to Feb.	Good.	3	3	4	3	5		Too tender.
Mackintosh Red											Not quite hardy enough for this county, except in very favoured sections
Powankoe											Several trees just beginning to bear, giving good promise of hardiness.
Red Astrachan	Medium	Red	September.	Good	3	1	2	4	4		Not quite hardy enough for this county, except in very favoured localities.
St. Lawrence											Too tender.
Talman Sweet											Not quite hardy enough.
Tetofsky	Medium.	Yellow.	Last of Aug	Good.	5	4	3	3	4		Very hardy—early ripener. Tree drops its fruit badly.
Wallbridge											Several trees just beginning to bear gives good promise of being hardy.
Wealthy	Medium to large.	Green and red	Sept. to Feb	Good.	5	5	5	4	5		Grand acquisition to our northern list of fruits. Desirable in every respect.
White Astrachan.	Medium	Green	Sept. 1st	Good.	5	4	4	3	4		
Crab Apples.											
Hyslop	Large	Red	Sept. to Nov.	Good	5	5	1	4	5		
Montreal Beauty	Large	Yellow and red	Sept. and Oct.	Good	5	5	3	5	5		
Transcendent.	Large	Yellow and red	Sept. and Oct.	Good	5	5	3	4	5		
Whitney's No. 20.	Large.	Yellow and red	Sept. and Oct.	Best	5	5	3	4	5		
FAIRY SOUND—											
Golden Russet											Doing well, but young.

Green Newton Pippin.									
Haas	Medium	Reddish	Winter	Good	5	5	4	Tree doing and growing well.	
Lady								Sandy soil.	
Mann								Not bearing, but doing well.	
Mackintosh Red								Doing well, but young.	
French Apple	Medium	Red	Fall	Good				Doing well, but young.	
Red Canada								Grown successfully and keep well. [sandy loam]	
Red Russet								Doing well, but not bearing yet.	
Tetofsky	2½ to 3 in. diam.	Yellow with rosy cheek	Autumn	Good	5			Doing well, but not bearing yet.	
Wallbridge					1			Poor keeper, but good for present use.	
Crab Apples.									
Hyslop	Large	Reddish	Fall	Good	5	5	5	Crab. Does well everywhere here.	
Tanssendant	Large	Reddish	Fall	Good	5	5	5		
Siberian	Small	Yellow			5	5	5		
CARLETON AND OTTAWA CITY.									
Alexander	Very large	Red	September	Good	5	4	3	4	5
Brackville	Large	Red	September	Very good	4	4	4	3	
Duchess of Oldenburgh	Large	Red cheek	September	Good	5	4	4	3	
Fanouse (Snow)	Small	Red	Oct. to Dec	Best	3	3	5	5	Very hardy.
Grim's Golden Pippin	Small	Russet	Winter	Best	4	4	5	4	
Red Astorham	Medium	Red	Aug. and Sept.	Very good	4	4	4	3	1
Taliau Sweet	Medium	Green	Oct. to May	Good	3	4	5	4	3
Waddy	Med. to large	Red and green	Sept. to Feb.	Good	5	5	5	4	3
Crab Apples.									
Hyslop	Large	Red	Sept. to Nov.	Good	5	4	1	3	5
Montreal Beauty	Large	Red cheek	September	Good	5	4	3	4	5
Tanssendant	Medium	Red cheek	September	Good	5	5	1	5	4
Whitney's No. 29.	Very large				5				Not yet fruited.
LANARK.									
Alexander	Very large	Green and red	Sept. to Feb.	Fair	5	4	3	4	5
Fanouse (Snow)	Small to medium	Red	Oct. to Dec	Very best	4	3	5	2	5
Golden Sweet	Medium to large	Green	Sept. and Oct	Good	5	4	4	4	
Peach of Montreal	Medium to large	Yellow	Sept. and Oct.	Good	5	4	1	3	4
Mackintosh Red	Medium	Red	Sept. to Feb.	Good	4	3	4	3	5
Pawnee									Being introduced.
Red Astorham	Medium	Red	1st September	Good	3	1	2	4	4
Taliau Sweet	Large	Green	Oct. to June	Good	4	4	4	4	
Tetofsky	Medium	Yellow	Last of Aug	Good	5	4	3	3	4
Wallbridge									Very hardy, early ripening. First drops badly from the tree.
Waddy	Medium to large	Green and red		Good	5	5	5	4	5
Crab Apples.									
Hyslop	Large	Red	Sept. to Nov.	Good	5	5	1	4	5
Montreal Beauty	Large	Yellow and red	Sept. to Nov	Good	5	5	3	5	5
Tanssendant	Large	Yellow and red	Sept. to Nov	Good	5	5	3	5	5

COUNTY REPORTS ON VARIETIES OF GRAPES GROWN IN ONTARIO.

VARIETIES — CLASSIFIED BY COUNTIES.	SIZE OF BUNCH	SIZE OF BERRY.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.				REMARKS, SOIL, CULTIVATION, ETC.	
						Hardiness.	Productiveness.	Wine.	Market.		
NORFOLK —											
Adirondac.....	Large.....	Large.....	Black.....	Early.....	Best.....	5	5	5	5		
Agawam (Rog. 15).....	Large and small.	Large.....	Red.....	Late.....	Best.....	5	5	4	5		
Barry (Rog. 43).....	Small.....	Medium.....	Black.....	September.....	Medium.....	4	4	3	3		
Clinton.....	Medium.....	Medium.....	Red.....	October.....	Good.....	5	5	5	5	Sandy and clay loam.	
Concord.....	Large.....	Large.....	Black.....	September.....	Best.....	5	5	3	5	"	
Cornucopia (Arnold's 2).....	Large.....	Large.....									
Creveling.....	Large.....	Large.....									
Delaware.....	Small.....	Small.....	Red.....	September.....	Best.....	4	5	5	5	Sandy and clay loam.	
Emmelan.....	Medium.....	Medium.....	Black.....	September.....	Medium.....	4	4	4	4	"	
Isabella.....	Medium.....	Medium.....	Black.....	October.....	Poor.....	1	4	3	2	"	
Salem (Rog. 22).....	Large.....	Medium.....	Red.....	September.....	Good.....	4	1	4	5	Sandy loam and clay loam.	
Talman (Champion).....	Large.....	Medium.....	Black.....	Early.....	Medium.....	5	5	3	5	"	
Wilder (Rog. 4).....	Large and small.	Medium.....	Black.....	September.....	Good.....	4	4	4	5	"	
LINCOLN											
Adirondac.....	Medium.....	Medium.....	Blue.....	September.....	Good.....	1	3	1	4		
Agawam (Rog. 15).....	Large.....	Large.....	Red.....	September.....	Good.....	3	3	2	4	Liable to mildew.	
Allen's Hybrid.....	Med. to large.....	Medium.....	White.....	September.....	Good.....	2	3	1	3		
Autcheon.....											
Barry (Rog. 43).....	Medium.....	Large.....	Black.....	September.....	Good.....	3	3	1	4		
Burnet.....	Med. to large.....	Medium.....	Blackish.....	September.....	Best.....	2	1		1		
Brighton.....	Large.....	Medium.....	Reddish.....	September.....	Best.....	3	4	3	4		
Catawba.....	Med. to large.....	Medium.....	Reddish.....	October.....	Good.....	3	4	5	3	Too late.	
Clinton.....	Small.....	Small.....	Blue.....	September.....	Poor.....	5	4	4	1		
Concord.....	Medium.....	Medium.....	Blue.....	September.....	Good.....	5	5	2	5		
Creveling.....	Scraggy.....	Medium.....	Blue to black.....	Aug. to Sept.....	Good.....	3	3	1	4		
Delaware.....	Small.....	Small.....	Reddish.....	September.....	Best.....	4	4	4	5		
Diana.....	Medium.....	Medium.....	Reddish.....	October.....	Good.....	3	4	2	3	Rather late.	
Duchess.....	Med. to large.....	Medium.....	White.....	September.....	Best.....	3	4		4		
Early Dawn.....	Small.....	Small.....	Black.....	September.....	Poor.....	1	1		1		

COUNTY REPORTS ON VARIETIES OF GRAPES GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE OF BUNCH. SIZE OF BERRY.		COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.			REMARKS. SOIL, CULTIVATION, ETC.
	Hardiness.	Productiveness.				Wine.	Market.		
Huron—Continued.									
Diana.....	Medium.....	Medium.....	Red.....	Sept. and Oct.	Very good.....	4	3	2	
Duchess.....	Medium.....	Medium.....	White or green and yellow.....	Sept. (end).....	Very good.....	4	4	3	
Early Dawn.....	Medium.....	Medium.....	Black.....	Sept. (middle).....	Good.....	4	4	2	
Essex (Reg. 41).....	Medium.....	Large.....	Black.....	Sept. (end).....	Good.....	5	3	3	
Fruit-lan.....	Medium.....	Medium.....	Black.....	September.....	Good.....	4	3	3	
Green (Reg. 1).....	Large.....	Very large.....	Yellow and green.....	Oct. (end).....	Very good.....	5	2	3	
Hartford Prolific.....	Large.....	Large.....	Black.....	Sept. (first).....	Good.....	5	4	3	Only suitable for amateurs.
Herbert (Reg. 41).....	Medium.....	Large.....	Black.....	Sept. to 1st Oct.	Very good.....	4	3	3	
Isabel.....	Medium.....	Medium.....	Red.....	Oct. 1st.....	Very good.....	4	4	4	Not reliable generally.
Isabella.....	Medium.....	Large.....	Black.....	Oct. 1st.....	Good.....	5	5	3	Locally valuable.
Isabella.....	Medium.....	Large.....	Black.....	Sept. (end).....	Good.....	5	1	2	
Ives.....	Medium.....	Medium.....	Black.....	October.....	Good.....	4	3	4	
Juddison.....	Large.....	Medium.....	Light reddish.....	Sept. (end).....	Good.....	4	3	3	
Lady.....	Medium.....	Large.....	White.....	September.....	Good.....	5	2	2	
Lady Washington.....	Large.....	Medium.....	White.....	Sept. (end).....	Good.....	5	3	3	
Lafley (Reg. 9).....	Medium.....	Medium.....	Red.....	September.....	Good.....	5	1	4	
Martha.....	Small.....	Large.....	Green.....	September.....	Good.....	3	3	1	
Massicot (Reg. 3).....	Medium.....	Large.....	Red.....	September.....	Good.....	4	3	3	
Merimac (Reg. 19).....	Medium.....	Large.....	Black.....	Sept. (end).....	Good.....	4	4	1	
Moore's Early.....	Medium.....	Large.....	Black.....	Sept. (first).....	Good.....	4	4	2	Only good when first ripe, loses flavor in a few days; berry also drops badly from bunch.
Niagara.....	Large.....	Large.....	White.....	September.....	Good.....	5	5	1	This is undoubtedly the grape for general market value.
Othello (Arnold's 1).....	Large.....	Large.....	Black.....	October.....	Good.....	5	3	2	
Pocklington.....	Large.....	Large.....	White.....	Oct. (end).....	Hardly good.....	3	3	3	Shells badly; very poor grower.
Prentiss.....	Medium.....	Medium.....	White.....	September.....	Very good.....	4	5	1	Requires to have fruit thinned out.
Rebecca.....	Medium.....	Medium.....	Green.....	Oct. (first).....	Good.....	4	3	2	
Salem (Reg. 22).....	Large.....	Large.....	Red.....	Oct. (first).....	Very good.....	4	4	1	
Sensqua.....	Large.....	Large.....	Black.....	Sept. (end).....	Very good.....	5	1	1	
Telham (Champion).....	Medium.....	Large.....	Black.....	Sept. (first).....	Poor.....	5	5	3	Scarcely salable in local markets on account of poor quality.

COUNTY REPORTS ON VARIETIES OF GRAPES GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE OF BUNCH, SIZE OF FRUIT.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.			REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Wine.	
BRANT								
Agawan (Reg. 15)	Medium	Red	September	Good.	3	1	1	3
Anania (Reg. 39)	Medium	Light black	30th Sept	Good.	3	1	3	1
Antelope	Not good	White	30th Sept	Good.	3	1	3	3
Bary (Reg. 43)	Medium	Black	September	Good.	3	3	3	5
Bent	Good	Black	August.	Good.	3	3	3	3
Birdston	Medium	White (?)	October	Good.	3	1	1	3
Canada (Arnold's 16)	Good	Black	October	Good.	3	3	3	3
Catawba	Large	Black (?)	October	Good.	3	3	3	3
Clinton	Small	Red (?)	October	Good.	3	3	3	3
Congdon	Medium	Black	October	Good.	3	3	3	3
Cornucopia (Arnold's 9)	Small	Black	September	Medium	3	3	3	3
Delaware.	Very large.	White (?)	1st October	Good.	3	5	1	3
Essex (Reg. 41).	Small	Black	October	Good.	3	3	3	3
Essex (Reg. 41).	Medium	Red.	Middle Oct	Poor	3	3	3	3
Harford (Proble)	Large	Black	August	Poor	3	1	1	3
Herbert (Reg. 44)	Medium	Black	September	Good	4	1	1	1
Isaly	Large	Black	End August	Good	3	4	3	3
Massasoit (Reg. 3)	Medium	Light red.	Aug. and Sept	Good	3	1	3	3
Marian (Reg. 16)	Medium	Black	October.	Good.	4	3	4	3
Moore's Early	Medium	Black	August.	Poor	3	4	3	3
Niagara	Large	Black (?)	October.	Poor	3	3	3	3
Othello (Arnold's 1)	Very large	Black	Middle Oct.	Good	3	3	4	3
Piedmont	Medium	White	End Sept	Poor.	3	1	3	3
Salem (Reg. 22)	Medium	Red	September	Poor	3	3	3	3
Wilder (Reg. 1)	Very large.	Black	October	Very good.	4	3	3	3
Seeding	Large	Black	September	Poor	3	3	4	3
CHRY								
Adirondac	Large	Black	September	Good	3	3	3	3
Agawan (Reg. 15)	Large	Red	September	Good	4	1	1	3
Allen's Hybrid	Medium	White	September	A very good	1	2	1	3
Barry (Reg. 43)	Large	Black	September	Good	4	3	1	3
Bent	Small	Black	October	Hardly good	3	4	4	1
(This cannot be correct, Editor.) Wants frost to ripen and flavour it. (Grown at H. W. Bredlour's, Brant ford.								

This cannot be correct, editor.)

" " "

" " "

Skin bursts and bees feed on it.

Marked value so high on account of coming in ahead of others.

(This cannot be correct, Editor.)

Wants frost to ripen and flavour it.

Grown at H. W. Breckhou's, Brantford.

Too tender generally.

Burned.	Large.	Large.	Black.	September.	Very good.	1	Has not succeeded in fruiting; sets badly.
Brighton	Medium	Large	Red or dark purple	September	Very good.	5	3
Clinton	Medium	Small	Black	October	Good	5	4
Concord	Large	Medium	Black	September	Good	5	5
Cresling	Medium	Medium	Black	September	Very good.	4	3
Delaware	Small	Small	Red	Sept. and Oct.	Best.	4	4
Diana	Medium	Medium	Red	Sept. and Oct.	Very good.	1	3
Duchess	Medium	Medium	White or green and yellow	September	Very good	1	4
Emmanuel	Medium	Medium	Black	September	Good	1	3
Hartford Prohibe	Large	Large	Black	September	Good	1	3
Hebert (Reg. 44)	Medium	Large	Black	September	Very good	1	5
Iona	Medium	Medium	Red	October	Very good.	1	4
Isabella	Medium	Large	Black	October	Good	3	1
Lindley (Reg. 96)	Medium	Medium	Black	September	Good	1	4
Martha	Small	Medium	Red	September	Good	1	3
Massasoit (Reg. 36)	Medium	Large	Green	September	Good	1	3
Marianne (Reg. 19)	Medium	Large	Black	September	Good	1	4
Moses's Ruby	Medium	Large	Black	September	Good	3	1
Salem (Reg. 22)	Large	Large	Red	October	Very good	3	4
Tahuan Champagne	Medium	Large	Black	September	Good	3	3
Willow (Reg. 4)	Large	Large	Black	September	Very good	1	1
Wooden	Medium	Large	Black	September	Good	1	4
Stucco							
Admiral	Large	Large	Purple black	Sept. and Sept.	Very good.	1	4
Agawan (Reg. 15)	Large	Large	Dark red	September	Very good.	3	3
Brent	Large compact	Small	Black	September	Good	1	4
Burnet	Medium	Medium	Black	October	Very good	5	5
Brighton	Large	Medium	Purple black	October	Good	4	3
Clinton	Small	Small	Black	October	Good	3	2
Concord	Large	Large	Black	September	Good	3	3
Cresling	Medium	Medium	Black	September	Good	5	5
Delaware	Medium	Small	Red	September	Very good	3	3
Isabella	Large	Large	Purple black	October	Good	4	3
Lindley (Reg. 9)	Medium	Medium	Red	October	Very good	3	3
Martha	Small	Medium	Red	September	Good	3	3
Massasoit (Reg. 36)	Small	Medium	Black	September	Good	3	3
Marianne (Reg. 19)	Large	Very large	Black	September	Good	2	3
Moses's Ruby	Large	Large	White	October	Good	4	4
Packington	Medium	Medium	White	October	Best	4	3

* Note. Small, early form. Most successful grapes grow best in dress heavily with manure every year; best grapes when planted in July with land plaster; the best grapes are grown on trellises running north and south.

COUNTY REPORTS ON VARIETIES OF GRAPES GROWN IN ONTARIO.—Continued.

VARIETIES CLASSIFIED BY COUNTIES.	SIZE OF BUNCH. SIZE OF BERRY.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.			REMARKS, SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Wine.	
Simcoe—Continued.								
Salem (Reg. 22)	Medium	Red	October	Very good	3	3	3	5 Hardy and healthy vine.
Talman (Champion)	Large	Black	September	Poor	3	3	3	5 Growth not as good as No. 9 and 15.
Wilden (Reg. 4)	Large	Black	October	Good	3	3	3	5 Not yet fruited.
Warden								
CARDWELL								
Isabella	Medium	Purple	October	Good	3	3		
YORK								
Agawan (Reg. 15)	Medium	Red	September	Very good	3	3	3	
Barry (Reg. 43)	Small	Black	September	Good	4	3	3	
Burnet	Small	Black	September	Poor	3	1	3	
Brighton	Large	Red	September	Best	4	3	3	
Chilton	Medium	Black	September	Good	3	3	5	
Concord	Large	Black	September	Good	3	3	3	
Delaware	Small	Red	September	Best	3	3	3	
Hartford Prolific	Large	Black	September	Good	5	3	4	
Landley (Reg. 9)	Medium	Red	September	Very good	4	4	5	
Moore's Early	Large	Black	August	Good	3	4	4	
Salem (Reg. 22)	Large	Red	September	Good	3	4	3	
Talman (Champion)	Medium	Black	August	Poor	3	3	3	
Wilden (Reg. 4)	Large	Black	September	Good	5	4	4	
Warden	Large	Black	September	Very good	4	5	4	
SOUTH ONTARIO								
Agawan (Reg. 15)	Large	Red	September	Very good	4	3	3	5 Sandy loam, clean cultivation; sells well.
Barry (Reg. 43)	Medium	Black	September	Very good	4	3	3	4
Burnet	Large	Black	September	Good	4	3	2	4
Brighton	Large	Red	September	Best	4	4	4	5 This is a fine grape

Clinton Concord	Small Large	Black White	September September	Poor Very good Best.	5 5 5	5 4 4	2 4 4	Tender for this part of Canada; tolerant sun shade.
Delaware Duchess	Small Large	Red	September	Best	4	4	4	
Early Dawn	Medium	White	September	Very good	4	3	1	
Emmanuel	Small Large	Black	August	Good	4	3	2	
Hartford Prolific	Large	Black	August	Very good	4	4	4	Nice fruit, but too small.
Isabella	Large	Black	October	Good	4	3	4	
Janesville	Medium	Black	August	Very good	5	3	3	
Lady Washington	Medium	White	September	Very good	4	3	3	
Landsey (Reg. 9)	Large	Medium	September	Best	4	3	4	This is a late group to my taste.
Martha	Medium	Red	September	Very good	4	3	4	
Montmorency (Reg. 19)	Medium	White	September	Very good	4	3	3	
Montmorency Early	Large	Black	Last of Aug	Good	4	2	3	
Packington	Very large	White	October	Very good	4	3	4	Not as early as I expected; a poor cropper.
Pontiac	Medium	White	September	Very good	4	4	4	
Salem (Reg. 22)	Large	Red	September	Best	4	3	4	
Talman (Champion)	Medium	Black	August	Good	5	4	5	
Telegraph (Christine)	Large	Black	September	Good	4	4	4	Growing in favour every year.
Vergennes	Medium	Red	September	Very good	4	3	4	
Wilkes (Reg. 4)	Large	Black	September	Very good	4	3	4	
Warden	Large	Black	September	Good	4	4	4	
NIGHT ONTARIO								
Clinton Concord	Small Large	Black Black	September September	Fair Good	4 4	4 4	1 1	About the best group in my list.
Delaware	Small	Purple	Early	Very good	4	4	1	
Hartford Prolific	Large	Blue black	Early	Fair	4	4	1	
Isabella	Large	White	Late	Medium	4	4	1	
Martha	Medium	White	Early	Very good	4	4	1	Does not ripen.
Montmorency Early	Large	Black	Early	Very good	4	4	1	
Packington	Medium	Yellow to white	Late	Very good	4	4	1	
Salem (Reg. 22)	Large	Purple	Early	Very good	4	4	1	
Talman (Champion)	Medium	Black	Very early	Poor	4	4	1	Does pretty well here.
FRONTENAC—								
Adirondack	Medium	Purple	September	Poor	5	3	3	Stuff of a well managed, clean cultivation on a southern slope.
Agawan (Reg. 15)	Large	Red	September	Best	5	4	5	
Burnet	Small	Black	October	Best	5	4	5	
Delaware	Small	Red	September	Best	5	4	5	
Emmanuel	Medium	Purple	September	Good	5	4	5	2
Hartford Prolific	Medium	Black	September	Poor	5	3	2	

Russell—

Adirondac	Medium	Large	Black	September	Good	3	1	1	3
Agawam (Reg. 15)	Large	Large	Red	Last Sept.	Good	4	3	2	1
Antuchon	Medium	Medium	G. W.	September 25	Good	4	3	2	1
Burnet	Large	Large	Black	September 25	Very good	3	4	3	1
Brighton	Large	Large	Red	September 25	Very good	3	4	3	1
Canada (Arnold's 16)	Medium	Medium	Black	September 25	Good	3	3	2	1
Clinton	Small	Small	Black	September 25	Good	3	3	2	1
Concord	Large	Large	Black	September 25	Good	3	3	2	1
Crochong	Large	Large	Black	September 25	Good	3	3	2	1
Delaware	Small	Small	Red	September 25	Good	3	3	2	1
Emmelan	Medium	Medium	Black	September 25	Good	3	3	2	1
Hartford Prohic	Large	Large	Black	September 25	Good	3	3	2	1
Iona	Large	Large	Red	September 25	Good	3	3	2	1
Landley (Reg. 9)	Large	Large	Red	September 25	Good	3	3	2	1
Massasoit (Reg. 3)	Medium	Medium	Red	September 25	Good	3	3	2	1
Moore's Early	Medium	Medium	Red	September 25	Good	3	3	2	1
Othello (Arnold's 1)	Very large	Very large	Red	September 25	Good	3	3	2	1
Salem (Reg. 29)	Large	Large	Red	September 25	Good	3	3	2	1
Tolson Champagne	Large	Large	Black	September 25	Good	3	3	2	1

CAMDEN AND OTTAWA

(11)

259

Adirondac	Medium	Large	Black	September	Good	3	4	3	1
Agawam (Reg. 15)	Large	Large	Red	Last Sept.	Good	4	3	2	1
Antuchon	Medium	Medium	G. W.	September 25	Good	3	4	3	1
Burnet	Large	Large	Black	September 25	Very good	3	4	3	1
Brighton	Large	Large	Red	September 25	Very good	3	4	3	1
Canada (Arnold's 16)	Medium	Medium	Black	September 25	Good	3	4	3	1
Clinton	Small	Small	Black	September 25	Good	3	4	3	1
Crochong	Large	Large	Black	September 25	Good	3	4	3	1
Delaware	Small	Small	Red	September 25	Good	3	4	3	1
Emmelan	Medium	Medium	Black	September 25	Good	3	4	3	1
Hartford Prohic	Large	Large	Black	September 25	Good	3	4	3	1
Iona	Large	Large	Red	September 25	Good	3	4	3	1
Landley (Reg. 9)	Large	Large	Red	September 25	Good	3	4	3	1
Massasoit (Reg. 3)	Medium	Medium	Red	September 25	Good	3	4	3	1
Moore's Early	Medium	Medium	Red	September 25	Good	3	4	3	1
Salem (Reg. 29)	Large	Large	Red	September 25	Good	3	4	3	1
Tolson Champagne	Large	Large	Black	September 25	Good	3	4	3	1

LANARK

Adirondac	Medium	Large	Black	September	Very good	3	4	3	1
Agawam (Reg. 15)	Large	Large	Red	Last Sept.	Very good	4	3	2	1
Brighton	Large	Large	Red	Last Sept.	Very good	3	4	3	1
Canada	Large	Large	Black	Last Sept.	Very good	3	4	3	1

COUNTY REPORTS ON VARIETIES OF GRAPES GROWN IN ONTARIO *Continued.*

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE OF BUNCH.	SIZE OF BERRY.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.			REMARKS. Soil, CULTIVATION, Etc.
						Hardiness.	Productiveness.	Wine.	
LANARK— (Continued).									
Delaware	Small	Small	Red	Last Sept.	Best	4	3	4	Very early; berry drops badly from the stem.
Hartford Prolific	Large	Large	Black	Middle Sept.	Good	4	5	4	
Lindley (Rog. 9)	Large	Large	Red	Last Sept.	Very good.	5	4	4	Very early and very hardy; sell well in market.
Martha	Medium	Large	White	Middle Sept.	Good	4	4	4	
Talman (Champion)	Large	Large	Black	Early in Sept.	Poor	5	5	5	
RESERVE									
Adirondac	Large	Large	Black	September.	Very good	3	4	4	Very early, but drops from the bunch badly.
Agawan (Rog. 15)	Large	Large	Black	September.	Very good	4	4	3	
Brighton	Large	Large	Red	Last Sept.	Very good	5	4	5	Just coming into bearing here.
Concord	Large	Large	Black	Last Sept.	Very good	5	5	5	
Delaware	Small	Small	Red	Last Sept.	Best.	4	3	4	Very early and very hardy; sells well.
Hartford Prolific	Large	Large	Black	Middle Sept.	Good	4	5	4	
Lindley (Rog. 9)	Large	Large	Red	Last Sept.	Very good	5	4	4	Only recently introduced here.
Martha	Medium	Large	White	Middle Sept.	Good	4	4	4	
Moore's Early	Large	Large	Black	Early in Sept.	Poor	5	5	5	Just coming into bearing; promise well.
Talman (Champion)	Large	Large	Black	Early in Sept.	Poor	5	5	5	
Wilden (Rog. 4)									Just coming into bearing; promise well.
Worden									

COUNTY REPORTS ON VARIETIES OF PEARS GROWN IN ONTARIO. *Continued.*

VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Dessert.	Cooking.	Home Market.		Foreign Market.
LINCOLN - <i>Continued.</i>											
Doyenne d'Ete.....	Small	Yellow, red cheek	July and Aug.	Good	4	5	4	2	4		
Doyenne Gray.....	Medium	Russet	October	Best.	3	4	5	3	4	1	
Duchesse d'Angoulême.....	Large	Green, red cheek.	Oct. to Dec.	Good.	5	4	3	5	5	4	Sand; grows knotty some seasons, as 1884.
Flemish Beauty.....	Medium to large	Yellow with red cheek	September	Best.	5	3	5	4	5	1	Cracked and spotted so late that it is worthless in some localities; blights badly on sand or clay.
Glout Monceau.....	Large	Greenish yellow.	December	Good	1	4	3	4	3	2	Blights badly.
Gondale.....	Medium	Light yellow.	October	Good	5	4	4	4	4	1.	
Howell.....	Large	Green, clear	September	Poor	5	4	1	1	2		
Josephine de Malines.....	Medium to large	Greenish yellow.	Dec. to Feb.	Best	4	4	4	4	3	4	
Kingessing.....	Large	Yellow	September	Very poor.	5	1	1	1	1		Sand.
Lawrence.....	Medium	Greenish yellow.	Nov. to Feb.	Good	5	4	4	4	4	4	One of best winter.
Louise Bonne.....	Medium	Red	Nov. to Feb.	Good	5	4	3	4	3	2	Sand.
Mount Vernon.....	Medium	Brownish russet.	December	Medium.	4	4	3	3	3	2	
Osband's Summer.....	Medium	Yellow	August	Very good.	5	5	5	5	5		Sand.
Rostrezer.....	Small	Red	August	Best.	5	5	5	5	5		Sand.
Sackel.....	Small	Yellowish brown	October	Best.	5	5	5	3	5		
Sheldon.....	Medium to large	Russet	Sept. and Oct.	Best.	4	5	5	3	5		
Souvenir du Congrès.....	Very large.	Yellow with blush	September	Poor	2	4	1	4	3		Rather tender.
Stevens Genesee.....	Medium to large	Whitish dotted	September	Fair	3	4	2	4	4		
Tyson.....	Medium	Yellow, slight russet.	Sept. and Oct.	Best	5	5	5	3	5		
Vicar of Winkfield.....	Large	Green.	October	Good	5	3	2	3			Clay.
White Doyenne.....	Medium	Yellow spots.	October	Good	5	3	2	4			Sand.
HURON											
Ananas d'Ete.....	Large	Yellow and brown	September	Good	4	3	3	3	3		
Bartlett.....	Large	Yellow	Aug. and Sept.	Very good	5	5	4	5	5		Blights sometimes on light cultivated soil; best early pear for market.
Belle Lucrative (Fondante d'Automne).....	Medium	Green	September	Very good	4	3	4	4	3		
Beurre Bosc.....	Large	Yellow and cinnamon russet.	Sept. and Oct.	Best	5	3	4	4	5		An excellent pear.

COUNTY REPORTS OF VARIETIES OF PEARS GROWN IN ONTARIO. -Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.				REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Usefulness.	Appearance.		
Huron. Continued.										
Seckel	Small	Brown, yellow and dull red check	Sept. and Oct. Best.	Very good	5	4	5	2	{ Too small for Canadian market; pays bet- ter to ship to New York.	
Sheldon	Large	Green and yellow and light russet	Sept. and Oct. Very good	Good	5	4	5	5		{ Deservingly popular. Too tender, and not valuable in its season in any case.
Savoy du Congrès.										
.....	Very large	Yellow	September	Good	4	3	2	3	Subject to blight on light soil.	
Stevens' Genesee	Large	Yellow and red cheek	Aug. and Sept. Very good	Very good	4	5	4	1	Too small, and rots in heat when ripe.	
Tyson	Small	Pale yellow	October	Very good	5	3	3	3	Losing in favour for market.	
Charlote	Medium	Pale yellow	Dec. and Jan. Hardly good .....	.....	5	3	3	3	Trees appear healthy, but poor growers.
Vicar of Winkfield	Large	Light yellow	Sept. and Oct. Very good .....	.....	4	3	4	3	{ Too small for market.
Washington	Medium	Light green	August	Poor	4	4	3	4		
White Doyenne	Large	Green and grey russet	Dec. and Jan. Very good .....	.....	5	4	4	2	
Windsor	Medium									
Winter Nellis										
Bacon.										
Bartlett	Large	Yellow	Aug. and Sept. Very good .....	.....	4	4	5	5	
Belle Luerative	Medium	Green	September	Very good	4	3	4	3		
Bonne Besse	Large	Yellow and cinnamon russet	Sept. and Oct. Best .....	.....	4	3	4	4	
Bonne Chagreau	Large	Light green and red	Nov. and Dec. Good .....	.....	5	1	2	5	
Bonne d'Anjou	Large	Green	Oct. and Nov. Very good .....	.....	4	3	4	4	
Bonne Diez	Large	Green and yellow	Oct. to Dec. Very good .....	.....	4	3	4	4	
Bonne Giffard	Medium	Green, yellow, red	Aug. and Sept. Very good .....	.....	3	1	4	5	
Bonne Hardy	Large	Green and light russet	Sept. and Oct. Very good .....	.....	3	3	4	4	
Bonne Superfine	Medium	Yellow	Oct. and Nov. Very good .....	.....	3	3	4	4	
Bottum	Medium	Yellow and red	September	Good	5	5	1	4		
Chapp's Favorite	Large	Yellow and red	Aug. and Sept. Very good .....	.....	5	5	4	5	
Doyenne d'Été	Small	Yellow and red	August	Good	3	3	4	3		
Doyenne Gray	Medium	Cinnamon russet	October	Very good	1	4	4	3		
Duchesse d'Angoulême	Large	Green and yellow	Oct. and Nov. Very good .....	.....	4	1	4	4	
Flemish Beauty	Large	Light yellow, red	September	Very good	5	5	4	5		

Goodale.	Medium.	Light yellow	October	Very good	1	2	3	4	5
Howell	Medium	Light yellow	September	Very good	1	2	3	4	5
Joséphine de Malines	Medium	Green and yellow	Dec. to Feb.	Very good	1	2	3	4	5
Lawrence	Medium	Green and yellow	Sept. to Jan.	Very good	1	2	3	4	5
Louise Bonne	Medium	Green and red	Sept. and Oct.	Good	1	2	3	4	5
Quintaga	Large	Orange	Oct. and Nov.	Good	1	2	3	4	5
Pound	Large	Yellow and green	Dec. to Feb.	Good	1	2	3	4	5
Seckel	Small	Brown yellow and red	Sept. and Oct.	Good	1	2	3	4	5
Sheldon	Large	Green and brown	Sept. and Oct.	Very good	1	2	3	4	5
Stevens' Genesee	Large	Yellow	September	Good	1	2	3	4	5
Vicar of Winkfield	Large	Pale yellow	Dec. and Jan.	Hardly good	1	2	3	4	5
White Dayne	Medium	Light yellow	Sept. and Oct.	Very good	1	2	3	4	5
Winter Nella	Medium	Green and grey russet	Dec. and Jan.	Very good	1	2	3	4	5
MIDDLSEX									
Barlett	Large	Yellow	September	Good	1	2	3	4	5
Belle-Laetive	Medium	Green	September	Good	1	2	3	4	5
Bonne Clangau	Large	Russet	November	Good	1	2	3	4	5
Bouge red	Small	Dark yellow	Nov. to Sept.	Good	1	2	3	4	5
Clap's Favorite	Large	Green and black	Nov. to Sept.	Good	1	2	3	4	5
Darbois's Seedling	Small	Dark yellow	August	Good	1	2	3	4	5
Flimsh's Beauty	Large	By wind, or red and yellow	September	Good	1	2	3	4	5
Goodale	Medium	Green	Sept. to Nov.	Good	1	2	3	4	5
Howell	Medium	Light yellow	Sept. to Oct.	Very good	1	2	3	4	5
Lawrence	Medium	Light green	Sept. to Oct.	Good	1	2	3	4	5
Louise Bonne	Medium	Green, with brown edge	Sept. to Oct.	Good	1	2	3	4	5
Seckel	Small	Brown	October	Good	1	2	3	4	5
Tyner	Small	Yellow	September	Good	1	2	3	4	5
Washington	Medium	Yellow	October	Very good	1	2	3	4	5
White Dayne	Medium	Yellow	October	Good	1	2	3	4	5
OXFORD									
Barlett	Large	Yellow	Aug. and Sept.	Extra good	1	2	3	4	5
Belle Bess	Medium	Yellow	September	Medium	1	2	3	4	5
Bonnet's Anna	Large	Green	November	Good	1	2	3	4	5
Charles Favorite	Large	Yellow, red edge	August	Good	1	2	3	4	5
Duchesse d'Angoulême	Large	Brown	August	Good	1	2	3	4	5
Flimsh's Beauty	Large	Brown russet	October	Good	1	2	3	4	5
Goodale	Small	Green russet	October	Good	1	2	3	4	5
Howell	Medium	Yellow	August	Good	1	2	3	4	5
Lawrence	Medium	Yellow	September	Good	1	2	3	4	5
Louise Bonne	Medium	Orange	September	Good	1	2	3	4	5
Oscar's Summer	Medium	Yellow	August	Good	1	2	3	4	5
Quintaga	Large	Brown	October	Good	1	2	3	4	5
Seckel	Small	Brown	October	Good	1	2	3	4	5
Sheldon	Medium	Russet	October	Good	1	2	3	4	5
Tyner	Small	Green and red	October	Good	1	2	3	4	5
White Dayne	Medium	Orange with a little russet	October	Good	1	2	3	4	5
Winter Nella	Medium	Green	Dec. and Jan.	Good	1	2	3	4	5

COUNTY REPORTS ON VARIETIES OF PLUMS GROWN IN ONTARIO.

VARIETIES— CLASSIFIED BY COUNTIES.		SIZE.	COLOUR.	SEASON.	QUALITY.	Yield 1 to 5.					REMARKS. Soil, Cultivation, Etc.	
						Hardiness.	Productiveness.	Cooking.	Home Market.			
NORFOLK—												
Bradshaw	Large	Large	Red	August	Best.	5	5	5	5	5	Clay loam and sandy loam.	
Cox's Golden Drop	Large	Large	Yellow	September	Best.	5	5	5	5	5		
Danson	Small	Small	Black	October	Best.	5	5	5	5	5		
Dunbar's Purple	Very large	Very large	Reddish	September	Very good	5	5	5	5	5		
General Hand	Very large	Very large	Yellow	September	Best.	5	5	5	5	5		
German Prince	Medium	Medium	Blue	September	Very good	5	5	5	5	5		
Green Gage	Small	Small	Green	September	Best.	5	5	5	5	5		
Imperial Gage	Large	Large	Green	September	Best.	5	5	5	5	5		
London	Medium	Medium	Red	September	Best.	5	5	5	5	5		
Peach Plum	Very large	Very large	Red	August	Good	5	5	5	5	5		
Pond's Seedling	Large	Large	Red	September	Best.	5	5	5	5	5		
Red Magnum Bonum	Large	Large	Red	September	Best.	5	5	5	5	5		
Roupe Chânde de Ravay	Large	Large	Green	Sept. (end of)	Best.	5	5	5	5	5		
Yellow Egg	Very large	Very large	Yellow	August	Very good	5	5	5	5	5		
LEICESTER—												
Bircham	Large	Large	Yellow, spotted with red	Aug. to Sept.	Good.	3	4	4	4	4	Subject to rot.	
Black's Gage	Medium	Medium	Yellow, with white specks.	Last of Aug.	Best.	3	4	4	4	4		
Blackshaw	Large	Large	Violet red	August	Good	3	4	4	4	4		
Cox's Golden Drop	Large	Large	Light yellow	September	Good	3	4	4	4	4		
Columbia	Large	Large	Purple	Aug. to Sept.	Good	1	1	1	1	1		
Dunbar	Small	Small	Purple on blue	September	Good	3	3	3	3	3		
Dunbar's Purple	Large	Large	Purple	August	Good	3	3	3	3	3		
General Hand	Large	Large	Yellow	September	Good	4	4	4	4	4		
Gage	Large	Large	Blue	September	Good.	4	4	4	4	4		
Green Gage	Small	Small	Green	August	Best.	3	4	4	4	4		
Imperial Gage	Medium to large	Medium to large	Green, tinged with yellow	September	Best.	4	5	5	5	5	Thrive best on light dry soils.	
Jefferson	Large	Large	Golden yellow	August	Best.	4	4	4	4	4		
Lawrence's Favorite	Large	Large	Yellowish green	August	Best.	4	4	4	4	4		
Lonsdale	Medium	Medium	Red	Aug. to Sept.	Good	5	5	5	5	5		
Monroe	Medium	Medium	Yellow	September	Good	4	4	4	4	4		
Peach Plum	Large	Large	Reddish, with pale bloom	July to Aug.	Good	1	2	2	2	2		
Pond's Seedling	Large	Large	Pinkish red	September	Good	4	4	4	4	4		
Red Magnum Bonum	Large	Large	Red	September	Good	4	4	4	4	4		
Roupe Chânde de Ravay	Large	Large	Red	September	Good	4	4	4	4	4		
Yellow Egg	Very large	Very large	Yellow	August	Very good	5	5	5	5	5		

COUNTY REPORTS ON VARIETIES OF PLUMS GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 TO 5.					REMARKS. SOIL, CULTIVATION, ETC.	
					Hardiness.	Productiveness.	Pressing.	Cooking.	Home Market.		Foreign Market.
Butte—											
Bingham	Large	Yellow.	End August	Very good	4	4	3	3	1		
Bradshaw	Large	Reddish purple	August	Good	4	4	3	4	4		
Cox's Golden Drop	Large	Yellow	End Sept	Good	4	5	3	4	5		
Danison	Small	Purple	September	Good	4	4	1	3	2		
Duane's Purple	Very large	Purple	August	Good	3	4	1	4	4		
General Hand	Very large	Green and yellow	September	Good	5	1	1	4	3		
Gorman Prune	Large	Purple	September	Good	5	3	2	3	2		
Glass	Large	Dark purple	September	Good	5	4	3	4	1		
Green Gage	Small	Green and yellow	August	Best	4	4	5	5	5		
Huling's Superb	Large	Green and yellow	August	Good	4	5	2	3	3		
Imperial Gage	Medium	Green and yellow	September	Good	4	5	4	4	4		
Italian Prune (Pollenberg's)	Medium	Dark blue	October	Good	4	3	1	3	3		
Jonah	Large	Yellow and red	End August	Very good	4	3	5	4	5		
Leonard	Medium	Red and purple	August	Good	5	5	2	4	5		
McLaughlin	Large	Yellow and red	August	Very good	4	3	1	3	4		
Peach Plum	Large	Light red	August	Good	3	3	2	3	2		
Prune Seedling	Large	Yellow and red	September	Good	4	4	3	4	4		
Prune English 14	Large	Purple	September	Good	3	3	1	4	1		
Red Maroon Bonina	Large	Light red	September	Good	4	4	3	4	1		
Rome Claude de Bovey	Large	Green and yellow	September	Good	4	4	3	3	4		
Smith's Orleans	Large	Reddish purple	October	Best	4	3	1	1	1		
Victoria	Large	Reddish purple	End August	Very good	4	4	3	3	1		
Washington	Very large	Yellow and purple	Aug. and Sept	Good	3	4	1	3	1		
Yellow Egg	Very large	Yellow	End August	Very good	5	3	4	5	5		
Middlesex—											
Bradshaw	Very large	Red crimson	Early Sept.	Best	4	3	5	5	5		Rich soil; very hard.
Danison	Small	Purple	August	Best	4	3	4	5	5		
Duane's Purple	Large	Purple	September	Best	3	2	5	5	5		Soil better.
Green Gage	Medium	Green	August	Best	4	1	1	5	5		
Leonard	Large	Purple	September	Very good	5	5	4	4	4		Much affected by black knot.

Yard - Seedling Washington.	Large Large	Common Green	September August	Good Best	1 1	2 2	3 3	4 4	5 5	Inclined to rot. Less affected by black knot than others.
OXFORD										
Danion	Medium	Blue	September	Good	3	3	3	3	3	Clay subsoil well cultivated. All of the sorts named are grown on the same soil.
Danion's Purple	Large	Rosset	September	Good	3	3	3	3	3	
General Purple	Large	Brown	August to Sept.	Good	3	3	3	3	3	
Green Gage	Large	Green	September	Very good	3	3	3	3	3	
Imperial Gage	Medium	Orange	August to Sept.	Very good	3	3	3	3	3	
London	Large	Yellow russet.	Aug. to Sept.	Good	3	3	3	3	3	
Pink's Seedling	Very large	Between red and russet	September	Good	3	3	3	3	3	
Pink's Yellow Gage	Medium	Yellow	Last of Sept.	Good	3	3	3	3	3	
Red Maroon Bonum	Large	Yellowish red	Sept. to Oct.	Good	3	3	3	3	3	
Yellow Gage	Very large	Yellow	September	Good	3	3	3	3	3	
BRAN										
Bradshaw	Large	Purple	August	Good	3	3	3	3	3	Too thin; well; green in fruit. Very sky bearing. Must be picked green to export.
Cass's Golden Drop	Medium	Yellow	September	Very good	3	3	3	3	3	
Champion	Small	Purple	August	Good	3	3	3	3	3	
Danion	Large	Blue	October	Very good	3	3	3	3	3	
Danion's Purple	Medium	Purple	September	Good	3	3	3	3	3	
Green Gage	Small	Green	September	Good	3	3	3	3	3	
Imperial Gage	Medium	Greenish yellow	Aug. to Sept.	Best	3	3	3	3	3	
Jonathan	Medium	Yellow, red check	September	Very good	3	3	3	3	3	
Long's Seedling	Medium	Purple	September	Good	3	3	3	3	3	
Pink's Yellow Gage	Very large	Reddish purple	October	Good	3	3	3	3	3	
Pink's Yellow Gage	Medium	Yellow	August	Good	3	3	3	3	3	Good; well; good cooking. Too small for profit.
Rare's Yellow Gage	Small	Yellow	August	Good	3	3	3	3	3	
Rare's Golden Drop	Large	Reddish purple	October	Good	3	3	3	3	3	
Victoria	Large	Light green	September	Best	3	3	3	3	3	
Washington	Large	Light green	September	Best	3	3	3	3	3	
CHIEF										
Bingham	Large	Yellow	End August	Very good	3	3	3	3	3	
Bleeker's Gage	Medium	Yellow	End August	Very good	3	3	3	3	3	
Bradshaw	Large	Reddish purple	August	Good	3	3	3	3	3	
Cass's Golden Drop	Large	Yellow	End Sept.	Good	3	3	3	3	3	
Danion	Small	Purple	September	Good	3	3	3	3	3	
Danion's Purple	Very large	Purple	Middle Aug.	Good	3	3	3	3	3	
General Hand	Very large	Green and yellow	September	Good	3	3	3	3	3	
Glass	Large	Dark purple	End Sept.	Good	3	3	3	3	3	
Green Gage	Small	Green and yellow	August	Best	3	3	3	3	3	
Imperial Gage	Medium	Green and yellow	September	Best	3	3	3	3	3	

COUNTY REPORTS ON VARIETIES OF PLUMS GROWN IN ONTARIO.—Continued.

VARIETIES— CLASSIFIED BY COUNTIES.	SIZE.	COLOUR.	SEASON.	QUALITY.	SCALE 1 to 5.				REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Cooking.	Home Market.	
GREY—Continued.									
Jefferson.....	Large.....	Yellow and red.....	End August.....	Very good.....	4 3 3	4 4 5	—	—	—
Lombard.....	Medium.....	Red and purple.....	August.....	Good.....	1 2 3	3 4 1	—	—	4 Liable to over bear.
Michigan.....	Large.....	Yellow and red.....	August.....	Very good.....	4 3 3	3 3 4	—	—	1 Fruit rots badly when matured.
Peach Plum.....	Large.....	Lazh red.....	August.....	Good.....	2 3 3	3 3 3	—	—	—
Pond's Seedling.....	Large.....	Yellow and red.....	September.....	Good.....	4 3 3	3 3 3	—	—	3 One of the most profitable for shipping.
Rome (L'Ami de l'Ami).....	Large.....	Green and yellow.....	October.....	Best.....	4 3 3	4 4 1	—	—	—
St. Louis.....	Large.....	Reddish purple.....	August.....	Very good.....	1 1 3	4 1 1	—	—	—
Victoria.....	Large.....	Yellow and purple.....	September.....	Good.....	1 3 3	3 3 3	—	—	5 Liable to over bear and rot.
Washington.....	Very large.....	Green and yellow.....	End August.....	Very good.....	3 1 4	4 3 3	—	—	—
Yellow Egg.....	Very large.....	Yellow.....	August.....	Good.....	3 3 3	3 3 1	—	—	—
SIMCOE.									
Bradshaw.....	Large.....	Red purple.....	September.....	Good.....	4 1 2	3 3 3	—	—	N g in cultivation.
Glass.....	Large.....	Blue.....	September.....	Good.....	4 3 3	3 3 3	—	—	—
Green Gage.....	Medium to small.....	Green.....	August.....	Very good.....	3 3 3	3 3 3	—	—	—
Imperial Gage.....	Large.....	Yellow.....	August.....	Good.....	1 3 3	3 3 3	—	—	—
Lombard.....	Medium.....	Violet blue.....	September.....	Very good.....	1 3 3	3 3 1	—	—	—
Pond's Seedling.....	Large.....	Purple.....	September.....	Good.....	4 3 3	4 3 3	—	—	—
Washington.....	Large.....	Yellow.....	September.....	Good.....	3 3 3	3 3 3	—	—	—
Yellow Egg.....	Large.....	Yellow.....	September.....	Very good.....	3 3 3	3 3 3	—	—	—
CARLOWILL.									
Bradshaw.....	Large.....	Purple.....	September.....	Good.....	4 1 3	4 1 1	—	—	Grown, but not fruited.
Danston.....	Large.....	—	September.....	—	—	—	—	—	Clay loam.
Fleming (Italian Prince).....	Large.....	Green.....	September.....	Best.....	3 1 4	3 1 4	—	—	Winter killed.
Green Gage.....	Large.....	Reddish purple.....	September.....	Best.....	1 1 4	3 3 3	—	—	Clay loam.
Lombard.....	Large.....	Yellow.....	September.....	Good.....	1 1 4	3 3 3	—	—	Clay loam.
Yellow Egg.....	Medium.....	—	September.....	—	—	—	—	—	—

YORK—

Bingham
Bleeker's Gage
Brachhaw
Coe's Golden Drop
Dennistown Superb
Drum's Purple
Fellenberg's Graham Prime)
General Hart
Glen du Pin
Green Gages
Huling's Ruby
Island Gage
Jambert
Moore's Melon
Perry's Pink
Perry's Yellow Gage
Rood's Seedling
Royal Charles Black
Stark's Ruby
Ward's
White

Medium	Yellow	Sept. 15th	Good
Medium	Yellow	Sept. 12th	Very good
Large	Very red	Sept. under 1st	Good
Large	Yellow	Sept. last	Good
Large	Green	August 3rd	Good
Very large	Purple	Sept. under 1st	Very good
Medium	Blue	Sept. last	Good
Large	Green & Yellow	Sept. middle	Good
Medium	Blue	October 1st	Good
Small	Green	Nov. middle	Good
Large	Yellow & green	Nov. middle	Good
Large	Green	Nov. 1st	Good
Medium	Very red	Nov. 1st	Very good
Medium	Yellow	Nov. 1st	Good
Large	Red	Nov. 1st	Good
Large	Yellow	Nov. 1st	Good
Large	Green	Nov. 1st	Good
Large	Purple	Nov. 1st	Good
Large	Yellow & red	Nov. 1st	Good
Large	Yellow	Nov. 1st	Good

275

二、三、四、五、六、七、八、九、十、十一、十二、十三、十四、十五、十六、十七、十八、十九、二十、二十一、二十二、二十三、二十四、二十五、二十六、二十七、二十八、二十九、三十、三十一、三十二、三十三、三十四、三十五、三十六、三十七、三十八、三十九、四十、四十一、四十二、四十三、四十四、四十五、四十六、四十七、四十八、四十九、五十、五十一、五十二、五十三、五十四、五十五、五十六、五十七、五十八、五十九、六十、六十一、六十二、六十三、六十四、六十五、六十六、六十七、六十八、六十九、七十、七十一、七十二、七十三、七十四、七十五、七十六、七十七、七十八、七十九、八十、八十一、八十二、八十三、八十四、八十五、八十六、八十七、八十八、八十九、九十、九十一、九十二、九十三、九十四、九十五、九十六、九十七、九十八、九十九、一百。

COUNTY REPORTS ON VARIETIES OF PLUMS GROWN IN ONTARIO. *Continued.*

Score 1 To 5.

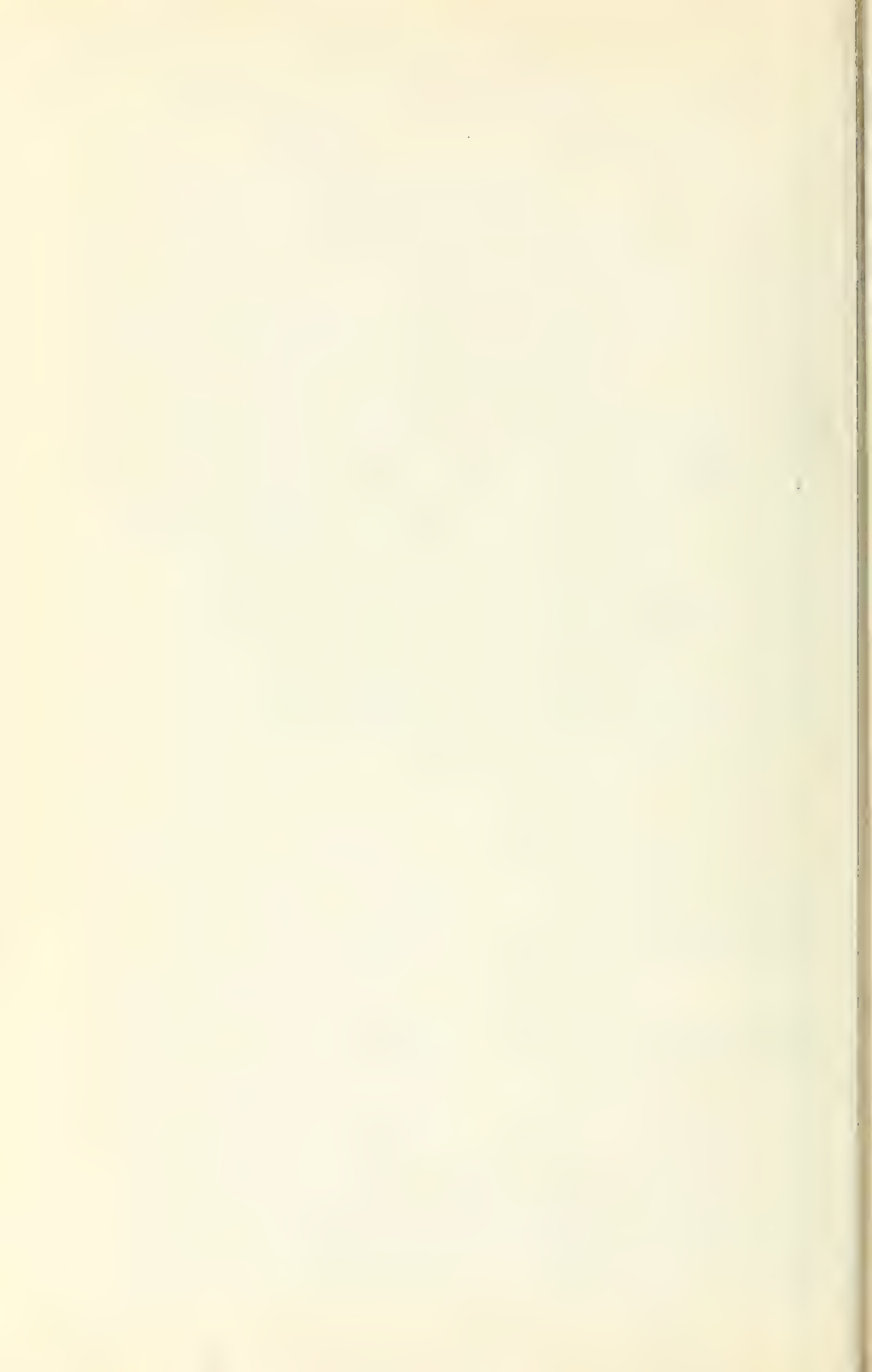
VARIETIES CLASSIFIED BY COUNTIES.	SIZE.	COLOR.	SEASON.	QUALITY.	Score 1 To 5.				REMARKS. SOIL, CULTIVATION, ETC.
					Hardiness.	Productiveness.	Dessert.	Cooking.	
					Home Market.	Foreign Market.			
SOUTH ONTARIO <i>Continued.</i>									
Pond's Seedling.	Very large.	Red	September.	Good	4	5	3	4	5
Prince's Yellow Gage.	Large	Yellow	September	Good	4	4	4	4	4
Quackenbush	Large	Brown	October	Very good	4	4	4	4	4
Red Magnum Bonum.	Large	Red	October	Good	3	2	3	4	4
Reine Claude de Bavay	Large	Green	October	Good	4	5	3	3	3
Smith's Orleans	Large	Brown	September	Good	4	4	4	4	4
Victoria	Large	Brown	September	Good	3	3	3	4	4
Washington	Very large	Yellow	September	Best	4	4	5	5	5
Yellow Egg	Very large	Yellow	September	Good	4	3	4	5	5
NORTH ONTARIO									
Bradshaw	Very large	Dark red	August	Good	1	1	1	1	1
Coe's Golden Drop.	Large	Yellow	September	Very good	1	1	1	1	1
Imperial Gage	Large	Green	August	Very good	1	1	1	1	1
Loubard	Medium	Violet red	September	Good	1	1	1	1	1
Monroe	Medium	Light red	September	Very good	1	1	1	1	1
Pond's Seedling	Very large.	Light red	September	Coarse	1	1	1	1	1
Reine Claude de Bavay	Medium	Green	September	Best	1	1	1	1	1
Washington	Large	Green and red	August	Very good	1	1	1	1	1
Yellow Egg	Large	Yellow	August last.	Coarse.	1	1	1	1	1
FRONTENAC									
Coe's Golden Drop.	Large	Purple	September	Good	4	5	4	5	5
Denniston Superb	Large	Yellowish green	End of Aug.	Best	5	4	5	5	4
Duane's Purple.	Large	Purple	September	Best	3	5	5	5	5
General Hand	Very large	Yellow	September	Best	2	5	5	5	5
Imperial Gage	Very large	Green	August	Best	3	5	5	5	5
Loubard	Medium	Red	September	Best	5	5	5	5	5
McLaughlin	Medium	Green	Sept. to Oct.	Very good	4	5	3	5	5

The plum does well here on clay soil when well drained and sheltered.

Does the best here.

Fruit rots some on tree.

Stiff clay, open cultivation; well manured with barn-yard manure and salt.



CORRESPONDENCE AND PAPERS

Relating to the Northerly and Westerly Parts of Ontario.

Presented to the Legislative Assembly by command of His Honour
the Lieutenant-Governor.

ARTHUR S. HARDY,
Secretary.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 4th February, 1885.

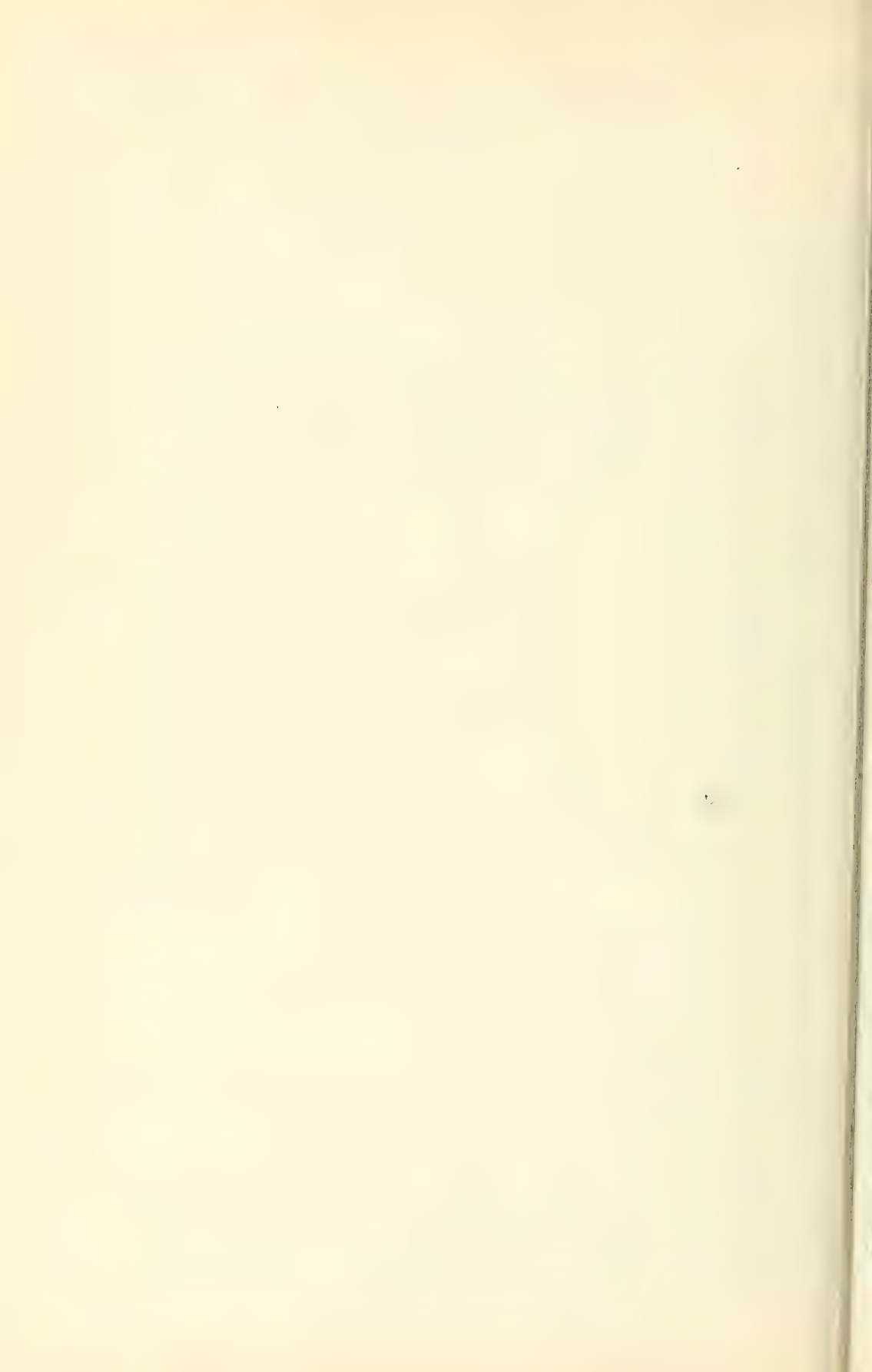
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ERRATA.

Note corrections made in RED INK on pages 17, 30, 31, 32, 35, 36, 37, 41, 42, 45, 46.

BY ORDER.

TABLE OF CONTENTS.

	PAGE.
1. Telegram from Provincial Secretary of Manitoba to Provincial Secretary of Ontario, 28th July, 1883.....	1
2. Telegram in reply, 28th July, 1883.....	1
3. Letter from Provincial Secretary of Manitoba, 30th July, 1883.....	1
4. Letter from Assistant Secretary of Ontario, to Provincial Secretary of Manitoba, enclosing copies of telegrams, August 3rd, 1883.....	2
5. Letter of Provincial Secretary of Manitoba, enclosing Report and Order in Council, August 11th, 1883.....	3
6. Order-in-Council so enclosed, dated 8th August, 1883.....	3
7. Report of Hon. J. Norrway to the Lieutenant-Governor of Manitoba, Aug. 8th, 1883..	4
8. Report of the Attorney-General of Ontario to Lieutenant-Governor of Ontario, 29th September, 1883.....	6
9. Order-in-Council approving thereof, 29th September, 1883.....	16
10. Report of Attorney-General of Ontario respecting an agreement with Manitoba to refer to Privy Council, 18th December, 1883.....	17
11. Order-in-Council, approving of Report, 20th December, 1883.....	30
12. Order-in-Council 11th January, 1884, respecting case agreed on between the two Governments.....	31
13. Despatch of Lieutenant-Governor to Secretary of State, enclosing copy of Order-in-Council, 12th January, 1884.....	31
14. Despatch of Secretary of State to Lieutenant-Governor in acknowledgement, 14th January, 1884.....	31
15. Report of Attorney General of Ontario, 23rd January, 1884, after agreement entered into.....	32
16. Despatch from Secretary of State to Lieutenant-Governor as to provisional agreement, 29th January, 1884.....	35
17. Despatch of Lieutenant-Governor in acknowledgment, 31st January, 1884.....	36
18. Despatch of Lieutenant-Governor to Secretary of State enclosing documents, 31st Jan., 1884.....	36
19. Order-in-Council, 31st January, 1884.....	37
20. Despatch of Secretary of State acknowledging, 1st February, 1884.....	37
21. Despatch of Secretary of State (in reply to despatch of 31st January, 1884), 18th March, 1884.....	37
22. Despatch of Lieutenant-Governor in answer, 29th April, 1884.....	41
23. Despatch of Secretary of State in acknowledgment, 1st May, 1884.....	42
24. Order of Her Majesty in Council on the reference as to the boundaries, 11th Aug., 1884	42
25. Despatch of Lieutenant-Governor respecting Imperial legislation, 22nd Nov., 1884....	45
26. Despatch of Under Secretary of State acknowledging, 24th November, 1884.....	46
27. Despatch of Lieutenant-Governor to Secretary of State, 12th December, 1884.....	47
28. Despatch of Under Secretary of State in acknowledgment, 13th December, 1884.....	48



1. TELEGRAM FROM HON. A. A. C. LA RIVIÈRE TO HON. A. S. HARDY.

28th July, 1883.

To Hon. A. S. Hardy:

Riotous proceedings are taking place at Rat Portage, professedly in the interest of your Government, and supposed to be with its sanction. Manitoba officials violently interfered with. All endeavours to keep the peace there will probably be unavailing so long as proceedings referred to are supposed to have the countenance of either Government. We desire, in the interest of peace and order, to ask that all sympathy with such unlawful proceedings be repudiated by your Government, with which this Government desires to have nothing but the most friendly relations. Please answer Mr. Norquay at Rat Portage to-day.

A. A. C. LA RIVIÈRE,

Provincial Secretary.

2.—TELEGRAM FROM HON. A. S. HARDY IN REPLY.

BRANTFORD, 28th July, 1883.

Hon. A. A. C. La Rivière, Provincial Secretary, Winnipeg.

We very cordially reciprocate the friendly sentiments in your message, and are satisfied that Mr. Norquay's interview with our officers at Rat Portage, will be satisfactory and convince him of their entirely peaceful intentions. Have not sufficiently authentic particulars to form an opinion upon last night's occurrences. Our latest advices are that matters are quiet, and we believe they are likely to remain so. There appears to be no necessity of a collision between the two parties. Have communicated with our officers to-day.

A. S. HARDY.

3.—LETTER FROM HON. A. A. C. LA RIVIÈRE, OF 30TH JULY, TO HON. A. S. HARDY, WITH COPY OF TELEGRAM OF 28TH JULY.

WINNIPEG, 30th July, 1883.

SIR,—I have the honour to transmit you a copy of the telegram forwarded to you on the 28th inst.

"Hon. A. S. Hardy, Provincial Secretary, Toronto:

"Riotous proceedings are taking place at Rat Portage professedly in the interest of your Government, and supposed to be with its sanction. Manitoba officials violently interfered with. All endeavours to keep the peace there will probably be unavailing so long as proceedings referred to are supposed to have the countenance of either Govern-

“ment. We desire, in the interest of peace and order, to ask that all sympathy with such
 “unlawful proceedings be repudiated by your Government, with which this Government
 “desires to have nothing but the most friendly relations. Please answer to Mr. Norquay
 “at Rat Portage to-day.

“ A. A. C. LA RIVIÈRE,

“ *Provincial Secretary.*”

I have the honour to be, Sir,

Yours truly,

A. A. C. LA RIVIÈRE,

Provincial Secretary.

HON. A. S. HARDY,

Provincial Secretary.

Toronto, Ont.

4.—LETTER OF G. E. LUMSDEN. ACKNOWLEDGING DESPATCH OF HON. A. A. C. LA RIVIÈRE, OF 30TH SEPT., WITH COPIES OF TELEGRAMS OF HON. A. S. HARDY, IN REPLY TO SAID DESPATCH.

TORONTO, August 3rd, 1883.

SIR,—I am directed to acknowledge the receipt of your despatch of the 30th ultimo, transmitting a copy of the telegram forwarded by you on the 28th ult., to the Honourable the Provincial Secretary of Ontario, with respect to the riotous proceedings reported to be taking place at Rat Portage.

I am to state that your telegram reached the Provincial Secretary at Brantford, from which place the following replies were telegraphed :

TELEGRAM FROM HON. A. S. HARDY IN REPLY.

“ BRANTFORD, 28th July, 1883.

“ *Hon. A. A. C. La Rivière, Provincial Secretary, Winnipeg.*

“ We very cordially reciprocate the friendly sentiments in your message, and are
 “ satisfied that Mr. Norquay's interview with our officers at Rat Portage, will be satisfac-
 “ tory and convince him of their entirely peaceful intentions. Have not sufficiently
 “ authentic particulars to form an opinion upon last night's occurrence. Our latest advices
 “ are that matters are quiet, and we believe they are likely to remain so. There appears
 “ to be no necessity of a collision between the two parties. Have communicated with our
 “ officers to-day.

“ A. S. HARDY.”

" BRANTFORD, 28th July, 1883.

" *Hon. John Norquay, last Portage.*

" I have replied to the despatch of your Provincial Secretary as follows :

" " We very cordially appreciate the friendly sentiments in your message and are
 " satisfied that Mr. Norquay's interview with our officers at Rat Portage will be satis-
 " factory, and convince him of their entirely peaceable intentions. Have not sufficiently
 " authentic particulars to form an opinion upon last night's occurrences. Our latest
 " advices are that matters are quiet, and we believe they are likely to remain so. There
 " appears to be no necessity of a collision between the two parties. Have communicated
 " " with our officers to-day."

I have the honour to be, Sir,

Your obedient servant,

GEO. E. LUMSDEN,

Assistant Secretary.

HON. A. A. C. LA RIVIERE,

Provincial Secretary,

Winnipeg, Manitoba.

5.—LETTER OF HON. A. A. C. LA RIVIERE, ENCLOSING COPY OF REPORT AND
 ORDER IN COUNCIL.

WINNIPEG, August 11th, 1883.

SIR,—I am instructed by His Honour the Lieutenant Governor in Council to
 transmit the enclosed copy of a Report and Order in Council, for the consideration of the
 Government of the Province of Ontario.

I have, etc.,

A. A. C. LA RIVIERE,

Provincial Secretary.

THE HON. PROVINCIAL SECRETARY

Of the Province of Ontario,

Toronto, Ont.

6.—REPORT OF A COMMITTEE OF THE EXECUTIVE COUNCIL OF THE PROVINCE OF
 MANITOBA, APPROVED BY HIS HONOUR THE LIEUTENANT GOVERNOR IN COUNCIL
 ON THE 8TH AUGUST, 1883.

The Committee of the Executive Council have had before them a Report herewith
 annexed, dated 8th August, 1883, from the Honourable the Provincial Treasurer, with
 respect to the administration of Civil and Criminal Justice in the eastern portion of the
 Province of Manitoba.

The Committee, on the recommendation of the Provincial Treasurer, advise that your Honour be requested to transmit a copy of this Report to the Secretary of State for the information of His Excellency the Governor-General in Council, informing him of the steps taken by the Government of Manitoba for the maintenance of law and order and the administration of Civil and Criminal Justice in that portion of the Province of Manitoba, and protesting against the interference of the Government of Ontario, through the action of their officials, with the due administration of the laws of this Province; and that the Honourable the Provincial Secretary be also instructed to communicate the facts set forth in this Report to the Government of the Province of Ontario, and emphatically to protest against the actions of their officials in their unwarrantable interference with the peace officers of the Town of Rat Portage in the discharge of their duty, and in their participation in the riotous proceedings that culminated in the breaking open of the lock-up and the liberation of the prisoners confined therein: and to inform them that the presence of officials claiming to act under the authority of the Government of Ontario, has a tendency to create disturbance and discontent in the hitherto peaceably disposed community of the Town of Rat Portage, and to further communicate to the said Government of Ontario that it is the intention of the Government of this Province to continue to enforce its laws and to maintain existing institutions established thereunder, and that under the circumstances this Government must hold the Government of Ontario responsible for any evil consequences that may arise out of the ill-advised actions of their officials in the past as well as for any unwarrantable interference they may choose to exercise in the future.

(Certified)

JOHN MACBETH,

*Clerk of the Executive Council**To the Hon. Provincial Secretary.*

7. —REPORT OF THE HON. J. NORQUAY TO THE LIEUTENANT-GOVERNOR OF MANITOBA.

DEPARTMENT OF THE PROVINCIAL TREASURER,

WINNIPEG, August 8th, 1883.

To His Honour the Lieutenant Governor in Council:—

May it please Your Honour:

The undersigned has the honour to report for the consideration of Council the following:—

That by 44 Vic. Cap. 1 of the Statutes of Manitoba, intituled "An Act to provide for the extension of the boundaries of the Province of Manitoba," the consent of the Legislature of the Province was obtained to the enlargement thereof. By 44 Vic. Cap. 14 of the Statutes of Canada, intituled "An Act to provide for the extension of the boundaries of the Province of Manitoba," the boundaries of said Province were enlarged as follows: Commencing at the intersection of the International Boundary dividing

Canada from the United States of America, by the centre of the road allowance between the 29th and 30th ranges of townships lying west of the first principal meridian in the system of Dominion Land Surveys; thence northerly, following upon the said centre of the said road allowance, as the same is or may hereafter be located on the ground across townships 1 to 44 (both inclusive), to the intersection of the said centre of the said road allowance by the centre of the road allowance on the 12th base line in the said system of Dominion Land Surveys; thence easterly along the said centre of the road allowance on the 12th base line, following the same to its intersection by the easterly limit of the District of Keewatin, as defined by the Act 39 Vic. Cap. 22, that is to say, to a point where the said centre of the road allowance on the 12th base line would be intersected by a line drawn due north from where the westerly boundary of the Province of Ontario intersects the aforesaid International Boundary Line dividing Canada from the United States of America; thence due south, following upon the said line to the International Boundary aforesaid; and thence westerly, following upon the said International Boundary Line dividing Canada from the United States of America, to the place of beginning.

And all the land embraced by the said description, not now within the Province of Manitoba, shall, from and after the passing of this Act, be added thereto, and the whole shall from and after this date form and be the Province of Manitoba. That said last recited Statute came into force on the 1st day of July, 1881, by Proclamation of the Governor in Council, dated 25th June, 1881. That by 44 Vic. Cap. 6 of the Statute of Manitoba, intitled "An Act to extend the laws of Manitoba to, and provide for the government of the Territory to be added to the Province by the extension of its boundaries," provision was made that the said Act should come into effect by proclamation of the Lieutenant Governor in Council, which proclamation was dated the 10th day of August, 1881, declaring the 15th day of August, 1881, to be the day on which the laws of Manitoba should come into force in the added Territory. That, by Order in Council, dated the 7th day of September, 1881, the County Court of the County of Varrennes was established at Rat Portage, and officers to discharge the duties connected therewith duly appointed. That, by Order in Council, dated the 30th September, 1881, the County of Varrennes was constituted a Registration Division, and the Registry Office fixed at Rat Portage, and a Registrar appointed therefor. That on the 20th June, 1882, application was made under the laws of Manitoba to the Lieutenant Governor in Council, by petition of eighty one out of one hundred and thirteen residents entitled to petition for Letters Patent of Incorporation, of the inhabitants of Rat Portage living within the limits hereinafter described, under the "Manitoba Town Corporation Act," commencing at the north west corner of section 28, township 9, range 22, east of the first principal meridian; thence east, a distance of four miles, more or less, to the north east corner of section 25 of said township; thence south a distance of two and a half miles, more or less, to the division line between the north and south halves of section 13 of said township; thence west a distance of four miles, more or less, to the western boundary of section 16; thence north two and a half miles, more or less, to the place of beginning. And that such town, municipality or corporation, or body politic, should be

known and designated as Rat Portage, and should have the rights, powers and privileges which may be granted by the said Charter under the said Act.

That His Honour the Lieutenant-Governor was pleased to grant Letters Patent incorporating the Town of Rat Portage, under which the Mayors and Councillors of said Town have continued to discharge the duties devolving upon them as civic functionaries, without any protest or question of authority exercised by them under their Charter : that since the establishment of the County Court, regular sittings thereof have been held by the Judges of the Court of Queen's Bench for the Province of Manitoba : that no protest or question of Manitoba's authority to the establishment of the Courts and the administration of Civil and Criminal Justice has ever been made to the Lieutenant-Governor in Council : that on the night of Thursday, the 26th of July last, while Town Constables McMurphy and Rideout were engaged in the discharge of their duty in arresting disorderly persons on the streets of Rat Portage, they were interfered with, and themselves put under arrest by parties claiming to be duly authorized by the Government of Ontario, to act as peace officers ; that on the night of the 28th of July last, the lock up in the Town of Rat Portage, in which were confined several prisoners awaiting trial, was forcibly broken into by a riotous mob, and the prisoners liberated therefrom : that prominent amongst those engaged in breaking into the said lock up at Rat Portage, were some who were sworn in as constables for Ontario, by one named Burden, claiming to have authority from the Government of Ontario to do so.

(Sgd.) J. NORQUAY,

Provincial Treasurer.

S. REPORT OF THE ATTORNEY-GENERAL OF ONTARIO TO THE LIEUTENANT-GOVERNOR,
29TH SEPTEMBER, 1883.

The undersigned has had under consideration certain documents received last month from the Government of Manitoba, purporting to complain of the interference of this Province and its officers in the government of part of our awarded territory. These documents consist of a copy of a report by the Honourable J. Norquay, Premier and Treasurer of Manitoba, dated 5th August, 1883 : copy of a report of the Executive Council of that Province, approved on the same day : and a despatch of the Secretary, dated 11th August, communicating these reports to the Government of Ontario. The despatch was received, and its receipt acknowledged, during the absence of the undersigned in England on public business, but further answer was deferred until after he should return.

The Province of Manitoba has always been, and must always be, regarded with much friendly interest in Ontario. When, in 1870, the Bill for the formation of the Province was before the Parliament of Canada, it had the support of Ontario members of all parties. When, in 1881, the Government of the Dominion proposed to extend the narrow limits at first assigned to the new Province, and to add to it 91,000 square miles of then undisputed territory, besides certain territory to which Ontario claimed title, the Lieutenant-Governor of this Province, in a despatch to the Secretary of State, put on record the observation, that, "so far as the territory

"to be comprised within the limits of the Province of Manitoba is clearly and indisputably within the jurisdiction of the Parliament of Canada, my Government rejoice at the extension of that Province, as affording a wider scope for the energies of its people and Government, and as giving to a large number of settlers in Keewatin and the North West Territories the direct benefits of Provincial and Municipal Government."*

So, after the passing of the Act, the Legislative Assembly of this Province, by a resolution passed on the 29th March, 1882, on the motion of the undersigned, declared "that the extension of Manitoba by the Federal Act receives, so far as the territory added is not in dispute, the hearty approval of the inhabitants of Ontario."†

In the Reports under review, the Manitoba Government curiously assume as if unquestioned or unquestionable, that the territory to which they refer is "a portion of the Province of Manitoba," assume as unquestioned or unquestionable that the territory is subject to the laws of Manitoba, ignore the fact of any dispute on either point; and therefore pronounce in unqualified terms any Governmental action of Ontario in the territory to be "unwarrantable" and an unauthorized "interference."

Yet the Federal Parliament in its legislation, and the Federal Government in public documents, have repeatedly admitted that the claim of the Dominion to the territory was a disputed one. In the Session of the Federal Parliament immediately preceding the Session in which the Manitoba Extension Act was passed, Parliament had passed an Act in which it was expressly declared, that the territory was "claimed by the Government of Ontario as being within" that Province; that "such claim is disputed," and that "the Parliament of Canada is desirous of making suitable provision for the administration of criminal justice within the said territory until the dispute is determined."‡ This Act was to be in force until the end of the following Session, and an Act for continuing it was passed in the same Session as the Manitoba Extension Act.§ In Orders in Council, and in Official Reports and correspondence, repeated statements to the same effect have been made.

Thus the claim transferred by the Dominion Act to Manitoba was, in the view and by the confession of the Dominion authorities, a disputed claim.

Again, after the passing of the Manitoba Extension Act, the Federal Parliament, at the instance of the Federal Government, in the Session of 1882, enacted, that the settlements in the disputed territory "shall, pending the adjustment of the boundaries, be, and the same are hereby made, part of the Electoral District of Algoma," one of the Electoral Districts of Ontario. The Federal Parliament has thus, by one statutory enactment, declared that the title is disputed, and has in another declared, in effect, that the probable and *prima facie* title is with Ontario rather than with Manitoba: for on any other ground the enactment first referred to would have been illegal, and so far as effectual would have been a gross violation of Provincial Rights.

Recent proceedings of the Government of Manitoba itself shew that that Government is alive to the unsubstantial character of its claim, for there has been no inter-

* Ontario Boundary Papers, 1882, page 498; Sessional Papers, Ont., 1882, No. 1. *Ibid.*, page 485.

† 43 Vic. c. 36; Assented to May 7th, 1880, D.

‡ 44 Vic. c. 15, D.; see also 45 Vic. c. 31, D.

§ 45 Vic. c. 3, s. 2.

ference or attempted interference, through its courts, officers, or otherwise, except at one point of the territory—Rat Portage, to which there is easy access from Winnipeg; and for the pending local election for Varennes no polling place was appointed for any part of the disputed territory south or east of the Height of Land, though this tract is 7,000 square miles in extent, and contains the principal population, and most of the electors.

But the right of Ontario to the territory west of the line $89^{\circ} 9' 27''$ west longitude, being disputed by the Federal authorities, the Government of Manitoba has recently been induced to assume "the maintenance of law and order, and the administration of Civil and Criminal Justice in" the territory; and has communicated to this Government the intention of Manitoba "to continue to enforce its laws, and to maintain existing institutions established thereunder," and to hold this Government "responsible for any evil consequences that may arise" from the "interference" of this Government or its officers. The fact is, that the "interference" which has taken place has been by Manitoba with the jurisdiction long exercised by Ontario. The Premier of Manitoba practically admitted this in a speech in the Manitoba Legislature in 1881, where, with reference to the disputed territory, he is reported to have said: "While the Government are willing and very eager to have the question settled, we do not consider that we would be justified in throwing ourselves into the vortex of a quarrel in which the other Provinces are more interested than we are. It is not with us a question of the acquisition or retention of territory, but only the knowledge as to how far our jurisdiction extends. Were we the owners of the public lands or public domain in this Province our cupidity might be aroused, and we might possibly make strenuous efforts to acquire the territory, but with two powerful contestants in the field it would be the height of folly to allow ourselves to get hurt by meddlesome interference." The Government of Manitoba has been induced to enter upon the "meddlesome interference" which the Premier thus frankly and justly condemned.

The same Report sets out the Act of the Federal Parliament extending the eastern limit of Manitoba to "the westerly boundary of Ontario" and gives at full length the description of extended Manitoba as contained in that statute. But the description does not purport to state where "the westerly boundary of Ontario" is, and that is the very question in dispute. The Federal Parliament cannot give to Manitoba any territory belonging to this Province.

The Report sets forth, also, Orders in Council of the Government of Manitoba in the year 1881, purporting to establish a County Court, a Registry Office, and a Municipal Corporation at Rat Portage. But it is manifest that the Government of that Province cannot by such means acquire a title to Ontario territory.

The Reports appear to assume a prior exercise of jurisdiction by Manitoba. But the fact is clearly otherwise, as a reference to dates will show. The Dominion Statute under which the Government of Manitoba claims the territory, was passed on the 21st of March, 1881, and came into operation (according to the Premier's Report) on the 15th of August, 1881. It is not pretended that, until after that date Manitoba took any of the steps mentioned, or had, or could have had, any

claim to do so. But long before that date the territory south and east of the Height of Land, where the principal population is, had been organized under the municipal law of Ontario; the laws of Ontario or Upper Canada, and no other, had always been recognized and enforced there; the Courts, Magistrates, and Officers of Ontario, and no others, had administered justice and enforced order, and lands, timber and mines were held by the inhabitants under Grants and Licenses from the Ontario Government, under the authority of the Ontario Legislature.

In 1879 and 1880, Mr. Laird, one of our Stipendiary Magistrates in the District of Thunder Bay, held Courts from time to time west of the Height of Land, at points on the Gull (now called Bridge) and English Rivers where these rivers are crossed by the Canada Pacific Railway, and at such Courts tried and disposed of between one and two hundred cases. From the time of his appointment he had been holding Courts and exercising jurisdiction in other parts of the now disputed territory, and he is doing so still.

The Award between the Dominion and this Province determining the question of boundaries was made on the 3rd August, 1878; and, there being then a prospect of early and considerable immigration into the northern part of the territory, the Lieutenant Governor of Ontario, in his Speech at the opening of the Ontario Legislature on the 9th of January, 1879, called attention to the "settlement by arbitration of the Northernly and Westerly boundaries of" the Province—such settlement having taken place since the last meeting of the Legislature; he specified the boundaries which the "decision" of the arbitrators "declares;" and he informed the Legislative Assembly that they would "be invited to approve of a measure having for its objects the preservation of order, the administration of justice, and the encouragement of settlement and enterprise in this territory." A measure for these purposes was introduced and passed accordingly, and received His Honour's assent on the 11th March, 1879. This Act provided amongst other things for the appointment of two additional Stipendiary Magistrates who were intended to have jurisdiction in the northern portions of the Awarded, but now again disputed, territory; and for an increase of the jurisdiction of Stipendiary Magistrates in the Districts of Thunder Bay and Algoma to meet the expected needs of the population.

Afterwards, and on the 20th of June of the same year, Mr. W. D. Lyon was appointed by this Government to be one of the new Stipendiary Magistrates, and his appointment was continued by a statute of the following session. Immediately upon his appointment he proceeded to the territory, and entered upon his official duties there, acting chiefly at Rat Portage and Fort Francis; and he has continued to exercise jurisdiction in the territory up to the present time as an officer of Ontario, and enforcing its laws.

In the Session of 1880, a new Act was passed by the Ontario Legislature respecting the Administration of Justice in the northernly and westerly parts of the Province—the previous Act having been objected to and disallowed, chiefly on the ground that it seemed to the Minister of Justice to "encroach upon the powers of the Dominion Government with respect to the appointment of judges." The new Act avoided some of the objections made to the previous Act, and was not interfered with by the Federal Government.

On the 28th May, 1880, an Order in Council was passed by the Lieutenant-Governor of Ontario in Council, establishing Division Courts at Rat Portage and Fort Francis, at the request of the inhabitants :— and Courts have been held at these places accordingly.

It was after all these proceedings on the part of the Ontario Government that the Manitoba Extension Act was passed by the Federal Parliament, and went into operation. It was at still later dates that Manitoba took the proceedings mentioned in Mr. Norquay's Report : the Order in Council for the establishment of a County Court by Manitoba was not passed till the 7th September, 1881 : the Order in Council for the establishment of a Registry Office was not passed till the 30th September, 1881 : and the application for the establishment of a Municipal Corporation was not made till the 30th June, 1882. It does not appear from the reports under review at what date this application was acted upon by the Government of Manitoba. The so called corporation was found to be powerless, and the inhabitants have since voluntarily organized under the Municipal Law of Ontario.

In a word, before Manitoba had any claim or pretence of claim to the territory, Ontario had the same administrative possession of it as of any part of its undisputed territory similarly situated as regards population and need of government.

The facts stated disprove any claim or supposed claim of prior possession or prior jurisdiction by Manitoba : and there are many additional facts which place beyond all reasonable contention the right of Ontario to the government of the country pending the dispute.

It is an undenied and undeniable fact that the claim of the Dominion to the territory as lying outside of Ontario was not made until 1872. Until then, the territory had for more than half a century been invariably recognized and claimed by the Governments of Canada as a part of Upper Canada or Ontario, and had, during all that time, been treated as being within this Province, and subject to the jurisdiction of the authorities of the Province. Our right to it was the common ground of all Canada as a Province, and of all Canada as a Dominion. In this connection it is to be remembered that the B. N. A. Act declared that that part of Canada which "formerly constituted the Province of Upper Canada shall constitute the Province of Ontario." To the territory now in question, Ontario makes no new claim : it is the claim of Manitoba and the Federal Government which is new.

Indeed, for nearly a century, namely, from 1774 until 1871, or later, with one abortive exception in the year 1818, the uniform construction placed officially on the Imperial Statutes and the official documents which respectively described or regulated our boundaries, assigned to our Province a westerly boundary which would include in our Province all that we are now claiming.

This also was the opinion expressed in 1856, by so eminent a judge as Chief Justice Draper ; and Chief Justice Harrison, in 1878, came to a like conclusion.

Again, amongst the Canadian Ministers who, from time to time before 1872, were parties to the assertion of the right of this Province to the territory, were Sir John Macdonald, the present Premier of the Dominion : Sir Alexander Campbell, the Minister

of Justice: Sir Hector Langevin, Sir George Cartier, Sir E. P. Tache, and the Hon. J. C. Chapais. In 1869, Sir George Cartier and Hon. William McDougall, speaking for the Federal Government, of which they were members, insisted, in a communication to the Imperial authorities, that our right to even a more extended territory than that which has since been conceded to us is so plain that "no impartial investigator of the evidence could doubt it."

In consequence of the abrupt and unexpected change of opinion or of policy by the Federal Government in 1872, correspondence and negotiations took place for a settlement of the matter, and at length the question was left to arbitration by the Governments of the Dominion and Ontario, with the general acquiescence of the Canadian people. The arbitrators were of the highest character and competence for the duty. The Canadian Minister of Justice, the Hon. James Macdonald, a member from Nova Scotia, during a debate in the House of Commons on the 18th February, 1880,* frankly spoke of the "high standing, the high character, and the great learning" of the Arbitrators: characterized Chief Justice Harrison, one of them, as an "eminent authority;" and said of them all: "No one would imagine for a moment that either of the eminent men who composed this tribunal could come to any decision that was not dictated by the purest motives, and I have no doubt by the most searching enquiry." The other arbitrators thus characterized were the distinguished publicists, Sir Edward Thornton and Sir Francis Hincks.

The Orders of Reference declared and agreed that the Award of the Arbitrators should be "final and conclusive." On the 3rd of August, 1878, the Arbitrators made an unanimous Award, and the territory now in question was thereby authoritatively declared to be part of Ontario.

Now, though it has been denied by the partisans of the Federal Government, that the unanimous award of the Arbitrators is final: and though it has been denied also, that our right to the territory was established by the arguments which were presented to the Arbitrators on behalf of Ontario, or by the uniform construction placed by the Imperial and Canadian authorities for half a century or more on the statutes and official documents which authoritatively described our boundaries: or by the reasons on which, in 1856, our right was positively asserted and insisted upon in the elaborate report of the Canadian Commissioner of Crown Lands: or by the testimony and arguments of Chief Justice Draper, as Agent for Canada, before the House of Commons in the same year: or by the arguments of Sir George E. Cartier and the Hon. William McDougall, addressed to the Imperial authorities in 1869: yet, in view of all these facts and arguments, it cannot be doubted in any disinterested and well-informed quarter that, as two Governments cannot exercise independent and beneficial jurisdiction in the same territory, the right and duty of administering justice, preserving order, and doing what government or legislation can do for developing the resources, promoting the settlement, and advancing the progress of the disputed territory, should be left with this Province pending the dispute.

It would be affectation on our part to seem ignorant of the fact, that we are indebted

* House of Commons Debates, 1880, p. 67.

to the Federal Government for the interference of Manitoba, and for the policy which the Government of Manitoba has lately adopted, and still more recently announced to this Government. The observations quoted from the Hon. Mr. Norquay's speech are sufficient to demonstrate this. And it is apparent from many other facts, some of which may be briefly mentioned.

The Government of Manitoba has assured us of its desire to maintain friendly relations with us : yet its recent policy is the reverse of friendly. It has unnecessarily intruded itself into the territory at Rat Portage, on the ground of a disputed claim recently set up by the Dominion authorities, and still more recently transferred to Manitoba. The Government of Manitoba has by this intrusion produced more or less of disorder in the locality affected, and it now complains of the disorder which its own interference created. It has treated as criminal offences acts done by officers of Ontario in their official capacity, and has succeeded by the ingenuity of its officers in carrying off two of our employees from Rat Portage to the Winnipeg gaol, where they have been treated with the ignominy which is the lot of common felons. Acts such as these would as between Independent States have been a Declaration of War, and of a war which the aggressor desired to be carried on with rancorous animosity. Our officers had been instructed to treat the officers of Manitoba with all the forbearance consistent with unavoidable duty. But the recent course of the Government of Manitoba has indicated a purpose, in reliance on Federal support, to make a policy of forbearance impossible to the representatives of Ontario authority.

Manitoba has no interest in accepting the burden of governing the territory, except as any compliance with the wish of the Federal Government for the time being may be supposed to be for the interest of that Province. The government of the territory involves expense which Manitoba with its present narrow revenue, and with its 105,000 square miles of undisputed territory, has other abundant use. By the express terms of the Statute the land and timber do not in any event go to Manitoba. The reason given in 1881, for transferring the territory to the Provincial jurisdiction of Manitoba was that, after being transferred, the Dominion and not Manitoba would have the lands. As the Federal Premier explained : " By extending the boundaries of Manitoba (the Act) does not affect the proprietorship of the land. The land in the extended boundary belongs to the Dominion still." . . . " We cannot afford to give (the territory) to Ontario if it belongs to the Dominion, because the lands would belong to Ontario. Keeping it as a portion of Manitoba the lands belong to the Dominion." *

Then, again, partisans of the Federal Government in Ontario, with whom the Government of Manitoba are making common cause, justify their position by claiming in Ontario that the Award does not assign to this Province as much territory as we are legally entitled to. They are understood to insist that, by passing over the Award, a claim by Ontario to territory as far west as the Rocky Mountains or the White Earth River, may be made good. In that case Manitoba would not only fail to obtain the territory now in dispute, but would be deprived of the 91,000 square miles to which Ontario under the Award has no claim : for the same arbitrators who affirmed

* H. C. Deb, 1881, pp. 1450, 1456.

our title to the territory now in dispute, negatived our claim to the remainder of the territory since transferred to Manitoba. The present absolute security of the title of that Province to 91,000 square miles of its territory, thus depends on the Award: and it is the obvious interest of Manitoba for that reason, as it is the policy of Ontario for other reasons, to uphold the adjudication of the Arbitrators.

Further: The territory in dispute, being, as we insist, in Ontario, all the acts of the Manitoba Government and officers in civil matters are illegal, and they are subject to actions for damages by every person, with whom or whose property, in the assumed administration of civil justice, they may interfere. Every man whom they arrest on civil process is arrested wrongfully: every man whom they may imprison on civil process is imprisoned wrongfully: and every seizure of property is a wrongful seizure. The same is the case in regard to their acts in criminal matters, except to the very limited extent that these may be sanctioned by the terms of the Federal Act of 1880, already mentioned. Damages legally and rightfully recoverable for such acts may easily exceed the whole revenue of Manitoba. It is against the interest of that Province unnecessarily to incur even the hazard of such a position.

The territory adjoins Manitoba, and its population will always have close commercial and social relations with the people of both Provinces. Its prompt development and early prosperity are of moment to the whole Dominion, through whatever Provincial Government it may be that these objects shall be accomplished, and Ontario, with its large revenue and its other advantages, will for many years be able to do more for the territory than the young Province of Manitoba expects to do. Ontario has an aggregate revenue many times greater than that of Manitoba, and has an unused surplus of some millions; and, besides, claiming to be entitled to the lands and timber and minerals, is in a position from these sources alone to afford important aid in developing the resources and promoting the prosperity of the territory in dispute.

It is thus manifest that the interference of Manitoba at Rat Portage is not only contrary to the course which a friendly Province would willingly take, but is absolutely useless as a means of promoting any interest of Manitoba in the territory: is assuming a burden and an expense without any advantage: is casting a cloud on the title of that Province to 91,000 miles of valuable territory: and is subjecting its Government and all its officers to extensive claims for damages to be paid from the treasury of that Province, if not from the private means of the actors and their abettors. The Government of Ontario cannot therefore but recognize in the recent proceedings of the Government of Manitoba the influence of the Federal Government. The First Minister, in the debate in the House of Commons, on the Manitoban Extension Bill in 1881, publicly announced the purpose to be, to "compel" the Government of this Province not to insist on the awarded boundaries; to compel them to "come to terms," and to induce such a condition of the territory that "they must do so." Events which have occurred since afford further illustration of this policy: and, this Province having hitherto refused to be "compelled" by other means, it seems now from the reports under review, and from the recent proceedings of the Manitoba Government, that force is henceforward to be employed in the work of compulsion. This

Government can only express its regret that the Government of that Province has been prevailed upon to become an instrument for this purpose.

It is to be observed that, this territory forming (as we insist) part of Ontario, it follows that the only legal government which is possible in the territory, is government by Ontario; that the only laws which are in force are the laws of Ontario; and that all executive acts of the Government and officers of any other Province in the territory are illegal and of no force or validity. For Ontario to abandon the Government of the territory would be to leave it without any legitimate government.

It is to be remembered, too, that in spite of our possession; and notwithstanding the repeated assertions of the Federal Parliament and Government that the title is in dispute; and notwithstanding the Federal recognition of the territory as within an electoral district of Ontario; and notwithstanding the invariable governmental recognition of the territory for half a century as lying within this Province; and notwithstanding the expressed opinion before 1872, of many of the most prominent members of the present and preceding Canadian Governments, and the expressed opinion of distinguished judges and publicists both before and since that date; and notwithstanding the unanimous award in 1878 of able and impartial arbitrators mutually chosen, yet the Federal Government have not refrained from making, and they continue to make, so-called sales and other grants from time to time of lands and valuable timber in the territory, under circumstances and conditions rendering such sales and grants in the highest degree improvident. It is obvious that the Government of Ontario would facilitate this great wrong, and encourage its further extension if we were to surrender the possession and government of the territory, and abandon the duties which belong to Provincial ownership.

For the Government of Manitoba to withdraw from the one narrow locality at which that Government has interfered, would be but to retrace an erroneous step, taken without sufficient consideration, and affording, if persevered in, no possible advantage of a legitimate kind.

On the other hand, for the Province of Ontario to voluntarily withdraw from this one locality only, while retaining its position in the remainder of the territory in dispute, would be absurd, and has not been proposed by anyone; and for this Province, in consequence of the interference of Manitoba at this one point, to voluntarily withdraw from the whole 39,000 miles of awarded territory so long recognized and treated as part of the Province, would be, if possible, still more absurd. Except at Rat Portage and its neighborhood, the only Provincial Government *de facto* in any part of the disputed territory has ever since Confederation up to this day been government by Ontario; and this Province has also, year by year, expended large sums therein for carrying on such government, and for building and repairing roads and bridges, aiding schools, and otherwise. At Rat Portage, some time after the passing of the Manitoba Extension Act, our officers were denied the use of the Dominion lock up, a very insufficient building but the only one for the purpose in the locality; and the usefulness of our Stipendiary Magistrate in repressing offences was thereby diminished, the nearest gaol or lock up in the territory being at Port Arthur, a distance of several hundred miles. The Ontario Legis-

lature therefore appropriated funds for the building of a new lock-up at Rat Portage, and the building was erected without objection or obstruction from any quarter. On its completion a small constabulary force was organized by Ontario for police duty in the locality. At this point, as elsewhere, this Province has recently expended its money in aid of needed roads, schools, and otherwise.

Under the circumstances set forth, it is manifest that Duty, Interest and Honour alike render the withdrawal of this Province impossible.

Let the government and legislature of our young sister Province leave Ontario to take care of the territory pending the dispute, and let them at the same time concur with this Province in the proceedings necessary for bringing at once all questions before Her Majesty, or Her Majesty's Imperial Privy Council, as on like conditions this Government long since proposed to the Government of the Dominion; and the evils of the dispute, and the time of its continuance will, so far as the two Provinces are concerned, be reduced to a minimum.

If Ontario should leave the territory, not only would the affairs of the most important parts of this section of our Province be thrown into utter confusion, but we should have the prospect of indefinite delay in getting the dispute settled.

All questions of damages arising out of the dispute, and claimable by either of the Provinces, or by individuals, might by concurrent legislation in the two Provinces be remitted to a Commission jointly chosen by the two Governments.

With respect to the particular acts complained of in the reports under review so far as these have not been already observed upon, the information received by this Government is, that, in consequence of our policy of forbearance, but two instances of collision with the officers of Manitoba have occurred. In the one case a Manitoba constable was arrested for disorderly conduct, and was discharged when brought before Mr Lyon, the Ontario Stipendiary Magistrate. The other is the charge under colour of which two of our constables are detained in the Winnipeg gaol. As to the affair at the old lock-up, this Government is informed that no person then in the employment of the Ontario Government either as a constable or otherwise, had any part in what took place; and that the affair was the act of the inhabitants generally, from indignation at what they regarded as the improper and unjust imprisonment of certain citizens who were confined in the building without lawful authority.

The undersigned respectfully recommends that a copy of this report be transmitted to the Government of Manitoba, with an expression of our regret at the hostile attitude which that Government has recently been induced to assume, and of our profound sense of the common interest which the two Provinces have in the speediest possible solution of the matters in controversy.

O. MOWAT.

29TH SEPTEMBER, 1883.

* Ont. Boundary Papers, 1883, pp. 160, 164.

9. ORDER OF LIEUTENANT-GOVERNOR IN COUNCIL, APPROVING OF THE REPORT OF THE ATTORNEY-GENERAL OF ONTARIO TO THE LIEUTENANT-GOVERNOR, 29TH SEPTEMBER, 1883.

The Committee of Council concur in the annexed report of the Honourable the Attorney-General with reference to certain documents received from the Government of Manitoba, purporting to complain of the interference of this Province and its officers in the government of part of our awarded territory, and advise that the same be acted upon.

Certified.

J. LONSDALE CAPREOL,
Assistant Clerk, Executive Council, Ontario.

13. REPORT OF THE ATTORNEY GENERAL OF ONTARIO TO THE LIEUTENANT GOVERNOR,
DATED 18TH DECEMBER, 1884.

The undersigned has the honour to submit the following Report with reference to the disputed boundaries of the Province.

It will be remembered that the Award bearing on the subject of the boundaries of the Province was made by the Arbitrators on the 21st of AUGUST, 1878, and has since that time been the subject of the consideration and Legislature of this Province have unsuccessfully endeavoured to obtain from the Government of the Dominion recognition of the Award as a final and binding determination of the boundaries of the Province, agreeably to the terms of the Reference. The acceptance of the Award has been urged on the grounds of inter-governmental good faith and obligation, as well as of Justice, Equity and Law. Apart from the strictly legal aspects of the case, my duty has been confined to the submission of the facts of the case to the Government of the Province, and to the recommendation of the Government of the Province to the Government of the Dominion, and to the recommendation of the Government of the Dominion to the Government of the Province. But after many despatches from this Government, and a delay of more than three years and a half, the Federal Government at length, in January, 1882, communicated their intention to repudiate the Award, and on the ground that, in the judgment of that Government, it was not binding in point of strict law.

Our means of obtaining the recognition of the Award, or acquiescence in the boundaries thereby found and declared, were these: (1) An appeal to the Federal authorities to fulfil the agreement under which the arbitration had proceeded and the award been made. Such an appeal has been made and reiterated, but without effect. (2) In case of failing in our appeal to the voluntary action of the Federal authorities, the persevering union of all parties in this Province in support of the Award and awarded boundaries would before now have secured the acceptance of the Award; but as well other political issues as party exigencies have unfortunately interrupted this unity of action. (3) There remained litigation, and the task of placing the Province in a satisfactory position for it.

With reference to this alternative of litigation, it was the obvious duty of the representatives of the Province to first try other means; partly, because litigation sometimes depends for its result, to some extent, on technicalities instead of the merits of the controversy; but chiefly, because the mode of litigation proposed by the Dominion Government would, or might, involve a delay of many years. By reason of the time which would be taken in producing anew, and establishing in a technical way, the great mass of evidence which had been placed before the Arbitrators, and by reason also of the time required for the proceedings in successive Courts until, if ever, the matter should reach the Privy Council, the Court of last resort. During this delay the country would, in the absence of satisfactory interim arrangements, be left without any undisputed Government, or system of laws; and the timber, which constitutes a large part of the wealth of the unsettled territory, would probably be wasted, and lost to Ontario forever. It was, therefore, the obvious duty of the representatives of the Province to see that, as far as lay in their power, the litigation should be entered upon at such a time, and should be of such a nature, and should proceed on such terms, as would reduce the evils of the litigation to a minimum. Two primary objects had

thus to be kept steadily in view : (1) as speedy a settlement as possible ; and (2) the best practicable interim arrangements.

The first of these two objects could best be obtained by a direct reference to the Privy Council ; and on the evidence already collected for the Arbitrators, so far as in the view of the Privy Council evidence should be material. A proposal was therefore rejected by the Provincial Government and Legislature for a suit in the Supreme Court ; as was also a second arbitration, on evidence to be taken anew. It was observed in the despatch to the Federal Government that "a great and obvious difference between a submission to the "Supreme Court now, and a direct immediate reference to the Judicial Committee of the "Privy Council is, that the former course would create years of further delay, and involve great 'additional labour and expense ; and without any advantage, as the final decision would "be by the Privy Council. The proposal implies too, that your Government contemplate "that the evidence shall be taken anew, and according to the usual practice of taking evidence in ordinary cases. A suit, involving facts which cover a period of nearly two centuries, and requiring documentary and other evidence from the Imperial Archives of "London, the archives of the Hudson Bay Company, the public and other records in Paris, "Washington, Albany, Quebec, Ottawa and elsewhere, would afford unusual occasion for "repeated and long continued delays, and innumerable and harrassing questions of procedure. If the object were delay, no better means of delaying a conclusive decision could "be devised." The proposal for another arbitration was thus spoken of in the same despatch:—"The proposal for inviting one of the two Law Lords named in your despatch, or 'some other eminent functionary,' to come to Canada 'for the purpose of hearing the evidence and deciding on the boundary question as one of law,' seems to my advisers, to stand next in order as a means of indefinite delay." Other reasons also were stated in opposition to this proposal.

With regard to interim arrangements, we from time to time pressed on the Federal Government the reasonableness and propriety of leaving the territory, its population, lands and timber, under the laws, government and legislature of Ontario alone, pending the delay. This was, on two grounds, desirable :—(1) as mitigating the evils of delay by providing in the best practicable way for the settlement of the territory and the well-being of the population meanwhile ; and (2) as largely removing all temptation to delay to our prejudice the final decision. The reasonableness of our proposals was not controverted in any communication from the Federal Government, and is now further established by the fact, that all the provisional arrangements so proposed by us are acceded to by Manitoba, so far as relates to matters of Provincial jurisdiction in the territory South and East of the Height of Land which separates the waters flowing into the Great Lakes from those flowing into Hudson Bay. This tract of the disputed territory includes probably four-fifths of the population, and a like proportion of the developed wealth of the territory in dispute.

It is to be remembered, in this connection, that Ontario has always exercised Provincial jurisdiction in the disputed territory. In the important tract just referred to this jurisdiction has been exclusive. On the North and West also of this Height of Land, Ontario Magistrates have exercised jurisdiction, civil and criminal, ever since the Award. As regards civil rights and property, theirs was the only jurisdiction so exercised until after the Federal Parliament had passed the Manitoba Extension Act ; and until, in 1881, the Federal

authorities induced the Government of Manitoba to establish Courts at Rat Portage. In 1879 and 1880, Mr. Lawd, the Ontario Police Magistrate of the Thunder Bay District, held Courts and exercised official jurisdiction as needed in this Northern territory. In 1879, two Stipendiary Magistrates were appointed under a statute of the Ontario Legislature for the same territory, and have ever since been doing duty therein. On the 28th May, 1880, an order was made by your Hon. fr in Council for the establishment of Division Courts at Rat Portage and Fort Frances. As regards Rat Portage, the first Court there was held (18th May, 1881) by Mr. Lyon, one of our stipendiary magistrates, and he was also the first Provincial Magistrate who exercised criminal jurisdiction at that place. Accordingly, before the policy of taking possession was adopted by the Government of Manitoba, the Premier of that Province publicly declared that any interference by his Province would be "impertinent."

That there was reason to guard against Federal delays in connection with litigation is manifest. As already mentioned, a delay of more than three years followed the Award before the Federal Government communicated to this Government its intention to reject the Arbitrators' decision. This Government had in numerous communications complained of the delay. Our communications on the subject in 1878, 1879 and 1880, and in the early part of 1881, obtained no attention whatever, except a formal acknowledgment of having been received; and the first communication of any greater significance was the despatch of the 27th January, 1882, in reply to one from this Government of the 31st December, 1881. That despatch was the very first in which the Federal Government could be got either to discuss our proposals, or to make any proposals to us of its own. The despatch was received while the Ontario Legislature was in session, and at a period therefore of more than usual pre-occupation, but was notwithstanding promptly answered. The answer bears date the 18th February, 1882; and both despatches were brought down to the House of Assembly two days afterwards. Our answer received the customary attention, and no other communication on the subject was made to this Government until some time after the General Election for the House of Commons, which took place on the 20th June in that year. On the 2nd Sept., 1882, the Federal Government transmitted to this Government a Resolution which had been passed by the House of Commons in the month of April previously, expressing approval of a reference either to the Supreme Court or to the Privy Council, as this Government should prefer: stating that the reference should be based on the evidence collected and printed, with any additional documentary evidence if such there was; and recommending a Joint Commission for the administration of the lands pending the reference. In the reply of this Government on the 15th Nov. certain important defects in the proposals were pointed out; and from that day to this no communication in reply has been received, either attempting to controvert the observations made in Your Honour's despatch, or making suggestions for supplying any of the defects pointed out.

It is to be remembered too, that in 1881 a conference had been suggested by the undersigned to those Federal Ministers to whose Departments the subject belonged; that they named the 21st November for this purpose; and that a conference accordingly took place on that day. At this conference the only mode of settlement which the Federal Ministers

proposed, or were prepared to entertain, was a new reference of the whole question to an English ex-Chancellor. As to provisional arrangements, some suggestions were made. On the 30th November, the undersigned communicated to the Minister of Justice that the proposal for a new arbitration could not be entertained; and further negotiation on either subject was dropped on the part of the Federal Government. The efforts of the undersigned to procure settlement by personal conference having proved as abortive as the efforts by correspondence, Your Honour's despatch of the 31st December, already mentioned, was written.

The Act of the Federal Parliament which was passed on the 14th March, 1881, transferring to Manitoba, for Provincial jurisdiction, the claim of the Dominion to 39,000 square miles of the disputed territory, affords further illustration of the policy of obstruction and delay which, for the protection of Ontario, had to be anticipated, and as far as possible guarded against. That transfer was made in opposition to the remonstrances of this Government, and for the announced purpose of compelling the Province to come to such "terms" as the Federal authorities should dictate, though no terms had up to that time been proposed, and none were any proposed to us for nearly a year afterwards. The other reason stated for the transfer was, that it was necessary that this territory should go to either Manitoba or Ontario; and that if it went to Ontario, the lands would go to Ontario, while if the territory went to Manitoba, the lands would belong to the Dominion; as if the Dominion claim might not have been transferred or abandoned to Ontario with a reservation of the right (if the Dominion had any) to the lands: just as the Act making the transfer to Manitoba contained a provision reserving the lands to the Dominion. Another singularity of the explanation is, that in the subsequent despatch to this Government, so far from admitting that the title to the land depended on the question of Provincial jurisdiction over the territory (as the explanation had suggested), the Federal Government claimed that "the question of the title to the land in the disputed territory should not be confused or mixed up in any way with that relating to the boundaries."

The proximity of Rat Portage to Winnipeg gave great facilities for embarrassing the action of this Province, and making its position in the territory difficult and troublesome. The journey from Rat Portage to Winnipeg is performed by rail in part of one day, while the journey between Rat Portage and Toronto occupies several days, and the only route for several months of the year is through Manitoba and the United States—an inconvenience which will terminate when the Pacific Railway Company is connected with the Ontario railway system. One consequence of the connection with Winnipeg by rail was, that the Government of Manitoba was able at any time to send any number of special constables in a few hours from Winnipeg to Rat Portage to maintain the position of that Government against Ontario; and was able on two occasions to carry off to Winnipeg persons who, as being officers of Ontario or otherwise, were charged with some offence against Manitoba jurisdiction. After these men were beyond the disputed territory, Ontario could do nothing for them except through the Manitoba Courts.

Again, Manitoba had all the support which the Federal Government could give. The Manitoba Extension Act of 1881 has been mentioned, and its object has been referred

and, notwithstanding permission to use the Dominion flag at Rat Portage for the purpose of our duties was withdrawn from Officers, in view of attempts to obstruct the executive action of the Militia in our Province at that point. At the same time, the Field Battery was taken to Rat Portage, the principal polling place north of the Height of Land. The *Manitoba Free Press*, a Liberal paper, published an editorial, the *Albany* General of Manitoba, referring to the jurisdiction exercised by Ontario at the same place, is reported to have "threatened to bring out the Field Battery, if the people and the Ontario specials proved too strong for him." Exclusive authority in respect of the Militia belongs to the Province of Ontario.

Another disadvantage on the part of Ontario has been, that since the passing of the Manitoba Extension Act, the party opponents in Ontario of the Provincial Government of the day, being in close political alliance with the present Federal Government, supported the policy of Manitoba in interfering with the jurisdiction of Ontario. If the territory in question is in this Province, it follows manifestly that government by Ontario is the only government which is legal there; that Ontario officials are the only officials who can legally act; and that all action there by another Province is illegal and a usurpation. But the opposite view has persistently, and with great violence of language, been insisted on by the leading journals here in the interest of the Federal Government. While saying they claim as belonging to Ontario all the territory which the Award assigned to our Province, if not more, yet, with ludicrous absurdity, these journals have persistently asserted that Ontario has no legal right now to be in Rat Portage; that the legal right to be there in the exercise of Provincial jurisdiction belongs to Manitoba pending the dispute; that the territory should be left to the exclusive jurisdiction of that Province; that its officers, and governmental action generally, cannot be legally interfered with by Ontario; that the presence of Ontario officials there is both "illegal and immoral;" that their position there as officers of Ontario is a "piratical position;" that every official act of theirs is an "outrage;" and that consequently the Ontario police-officers are a "gang of bullies and brigands," "cut-throats," an "armed band of freebooters," "armed for the probable end of murder." Such is the language in which day after day, and week after week, for months, these journals have endeavoured to weaken the action of their own Province, and to encourage and strengthen that of Manitoba, in holding possession of this part of the disputed territory.

But these obstructions failed to accomplish their purpose. We declined to recall the officers of Ontario; and, in spite of every difficulty, they have continued to exercise effective jurisdiction at Rat Portage, as well as elsewhere. The result has been, a provisional Agreement with the Government of Manitoba for the satisfactory settlement of all the Provincial differences.

That the proper course was to maintain our position in the territory had been affirmed by the Ontario Assembly in Resolutions passed on the 9th March, 1882, by a majority of 50 to 25. These Resolutions declared, "that in the opinion of this House it had become the duty of this Province to assume without further delay the full government and ownership of the territory, without reference to the claims of the Federal Government;" and that, "while collision with the Federal authorities is to be avoided, the Stipendiary Magistrates and

"the other officers of this Province" should be instructed to see that, as far as possible, our laws are enforced, peace and order preserved, and justice duly administered, as in the other parts of the Province." In the same Session, on the recommendation of your Honour, money was voted for defraying the expenses of the administration of justice in the territory. A sum also was voted, on the recommendation of your Honour, for building a Court House and Lock-up at Rat Portage, and a sum for building a road in the Rainy River District. In 1883 further sums were voted in like manner for administering justice in the same territory, and for completing the building at Rat Portage. The appropriations for all these purposes were passed by the Legislative Assembly without a division.

The instructions given to our officers were in accordance with the resolutions of the Assembly. Our officials were directed to avoid any conflict with the officers of the Dominion or Manitoba, and to treat them with all the forbearance consistent with public duty.

To have withdrawn from the territory as soon as Manitoba appeared on the scene, as we were urged to do, would have been pusillanimous, and dishonouring to Ontario, and would not have been endured by its people.

Such a course would also have been deciding against the right of this Province to the disputed territory; would have weakened our authority in every part of it; would have encouraged the lawless and litigious to resist our jurisdiction in those parts of the territory where it had never before been questioned; would be casting a cloud on the titles by which our people in these parts hold their lands and houses; and would be inviting Manitoba to extend its institutions, courts and officers to all points of the territory where there is population. Our action in the matter prevented these results.

The undersigned has referred to the fact, that the Federal Government has been dealing with the lands and timber in the territory. If by our voluntary action we had left Manitoba to treat the territory as within its exclusive jurisdiction, it would be the common interest both of the Federal and Manitoba Governments to continue for an indefinite time this state of things. Under it they would have nearly all the advantages of undisputed ownership; and it would be for their interest to await an opportunity of procuring the abandonment by some Ontario Government of a territory to which the title of the Province had then become but nominal. The population would have become accustomed to the laws of Manitoba, and have the habit of considering themselves as citizens of that Province; and the lands and timber limits of which they were in occupation would have for title grants, licenses, contracts, or permits from the Federal Government. A few years would be sufficient to bring into this position all the lands and timber-limits in the territory. But, under our policy of effective possession, the presence of Ontario officials and their active exercise of administrative authority have been a standing notice to all persons dealing with the Dominion, that Ontario claims the territory. To have voluntarily abandoned this advantage would, in view of the value of the timber alone, have been a wanton sacrifice of great Provincial resources.

Not only was interim possession by Ontario desirable for these important objects, as well for other objects set forth in various official documents, but such possession was for another reason imperative. Disputed matters of inter-state or inter-national boundaries have been judicially held to be questions for the Executive, and not for the Courts.

and, in view of what on this point has been decided elsewhere, the Provincial Courts of both Provinces would probably feel compelled to hold, for the purposes of all questions arising in these Courts, that the territory was in that Province which exercised exclusive jurisdiction in it. A Manitoba Judge has already on this ground held that Port Arthur, which is in the southern part of the disputed territory, and is in our exclusive possession, must for the purposes of judicial decision be taken to be in Ontario; and, on the other hand, he has acted on the view that, as regards territory in which both Provinces exercise jurisdiction, the right is by a Manitoba Judge to be taken to be in his own Province only. If he was correct, it follows that in the same circumstances Ontario Judges would hold that the right is in Ontario. But, if, pending the dispute, Ontario were, weakly or through misleading counsels, to have abandoned possession to Manitoba, the Courts of both Provinces would probably have held, without going into any other enquiry on the subject, that the right was in Manitoba.

The new Ontario Look-up at Rat Portage was completed early in June, 1883. On the 12th of June, a commission was issued by your Honour to Messrs. Burden and Pattullo "to inquire respecting claims which may be made by squatters and others to mining lands, water privileges, farm or town lots, or other rights of property in the disputed territory, and from time to time to report the evidence taken and the opinion of the commissioner or commissioners thereon." Public notice was given of the commission, and on the 11th July the first meeting was held. On the same day the small constabulary force provided by this Government for police duty arrived at Rat Portage. On the 14th July, License Commissioners were appointed by your Honour for this part of the territory. In August, a Municipal Council was organized by the inhabitants at Rat Portage under Ontario law. During this time, and previously, the Stipendiary Magistrate and other officers of Ontario, at that point as well as elsewhere, were in active performance of the duties incident to their respective offices.

The difficulty of maintaining our position at Rat Portage would have been much greater were it not that the people of the locality prefer connection with Ontario to connection with Manitoba. In January, 1880, the inhabitants passed a resolution for municipal incorporation under Ontario law, though in consequence of an irregularity in the preliminary proceedings the resolution was not immediately followed up. In the same year the inhabitants applied for the establishment of a Division Court to be held by an Ontario Magistrate at the same place. Another conclusive illustration of the local preference for Ontario connexion was introduced in the present year on the organization of the locality for municipal purposes under Ontario law. The first step in the statutory proceedings required for the purpose, a meeting called on the requisition of a specific number of the inhabitants to consider the expediency of erecting a municipality. This meeting took place on the 14th August, 1883, and was largely attended. The Premier of Manitoba went from Winnipeg to Rat Portage for the purpose of attending the meeting to report the resolution affirming such expediency; he was present at the meeting and took an active personal part in justifying the resolution, and it was carried without dissent and influence, by a majority of three to one of those present, and was voted for by twice the number of resident householders required by law. The action of our officers in maintaining Ontario institutions, and enforcing jurisdiction, has been greatly aided by the good-will of the majority of the

population, and by our being able on this account to obtain in the locality a sufficient number of special constables in any emergency rendering a greater force than was kept on permanent duty.

At first it was evidently the policy of the Manitoba Government to induce or compel Ontario to withdraw its officers and to abstain from the exercise of jurisdiction. As one means of carrying out this policy, use was made of the judicial authority of the Manitoba Judges and courts in order to embarrass and paralyze the action of this Province in the territory. In the month of July last, certain persons were charged with alleged offences committed at Rat Portage against the laws of Manitoba, and were taken for trial to Winnipeg, and there imprisoned. Some of them were Ontario constables, and the alleged offence consisted in acting as such at Rat Portage. One of these constables was (under the charge of the learned Judge) convicted, and was sentenced to a month's confinement in the common gaol. As both Governments claimed the territory, and as both had their officers at Rat Portage (and in the other and more important parts of the territory Ontario alone had its officers or exercised jurisdiction), how it could be thought right or reasonable to imprison for a month, not to speak of a longer period, for the performance of duty there to a man's own Government, it is not easy to understand. Such convictions were practically unappealable, as the term of imprisonment would expire before an appeal could be disposed of.

The object for which these proceedings were taken by the Manitoba Government sufficiently appears from what was said by the the Premier of Manitoba at an interview on the 6th August, reported in a Government journal, the *Winnipeg Times*. In this interview the Premier stated that his Government would not permit Ontario to exercise jurisdiction at Rat Portage; that, if Ontario officials should pretend to administer authority there, he would consider it an interference with the peace, and would ask Ontario to remove all her officials; that if they attempted to arrest persons, his Government would resent such action; that it was impossible for both Governments to exercise authority there without a clash; and that his Government had made up its mind to act with energy and decision.

To the same effect was an Order in Council of the 8th August, 1883, in which the Manitoba Government protested against the interference of the Government of Ontario through its officers at Rat Portage; objected to their presence there; announced the intention of the Government of Manitoba to enforce its laws and maintain existing institutions established thereunder; and stated that that Government would hold the Government of Ontario responsible for any evil consequences in the past, as well as for any interference in the future.

Some months afterwards it was announced to be the object or desire of the Government of Manitoba to have the question of right determined by the Courts; but in the interview referred to, the Premier declared that Rat Portage was "unquestionably" in Manitoba.

A copy of the Order in Council was transmitted to this Government and acknowledged during the absence of the undersigned in Europe on public business. In the Report thereon of the undersigned, made after his return, dated 29th September, 1883, and adopted by your Honor in Council, it was pointed out that for reasons therein stated the withdrawal of this Province from the territory was impossible; and the Government of

Manitoba was, among other things, argued to "commence with this Province in the past" has not saved it from the "dispute" between the Magistrate and the Attorney General. "Imperial Privy Council, as on like conditions this Government long since proposed to the Government of the Province" "the matter of the dispute, and the present" "tinuance will, so far as the two Provinces are concerned, be reduced to a minimum." A copy of the Report was transmitted to the Government of Manitoba with an expression of "our profound sense of the common interest which the two Provinces have in the speediest possible solution of the matters in controversy." But the suggestions made met with no response from the Manitoba Government. The results which that Government had been led to expect from a policy of compulsion had not then been despaired of.

On the 20th October, the Manitoba authorities notified the innkeepers at Rat Portage that the "lock-up" was closed; and our officers had reason to apprehend, that to give effect to this notice offenders if not protected by an adequate force would be carried off to Winnipeg for trial and imprisonment. Our Magistrate called on the Police to have a sufficient number of men to protect our people and officers and maintain the laws; and no attempt was therefore made to act on the notice until the 19th November. On that day, one McQuarrie, who held an Ontario license, was summoned to appear before the Manitoba Magistrate; and, as he did not recognize the authority of the summons, a warrant was issued on the following day for his arrest. The Ontario police protected McQuarrie, and arrested the Manitoba constables who in the execution of the warrant had assaulted him. The constables so arrested gave back, except the Chief Constable, one Creighton, who by desire of the Manitoba Government, remained in the Ontario Lock-up.

On the same day, a majority of the Manitoba Municipal Council at Rat Portage passed a resolution authorizing proceedings to be taken against the Ontario Municipal Council for acting as such, the purpose being to raise the question of Ontario jurisdiction before a Manitoba Court on a *Quo Warranto*. This certainly would have presented the question in a more fitting form than by an indictment against an Ontario constable for act of duty to his own Province. On the 21st November, the Attorney General of Manitoba procured from one of the Manitoba Judges a Writ of *Habeas Corpus* calling upon the Ontario Magistrate and Gaolet to produce Creighton before the Judge at Winnipeg.

But a trial in Manitoba Courts was, for several reasons, out of the question as a means of procuring a satisfactory settlement of the controversy:

(1) In an inter-provincial dispute an adjudication by the Courts of either Province would not give satisfaction in the other.

(2) To raise the question in any of the Provincial Courts with a view to carrying it up to the Privy Council would involve even greater delay than the rejected proposals for a reference to the Supreme Court of Canada or an English ex-judge.

(3) The Manitoba Judges had prejudged the question, and had for some time been holding Courts in the disputed territory as part of Manitoba, and as already mentioned, a judge at Winnipeg imprisoned one of our constables for assuming that the territory was not in Manitoba but in Ontario.

(4) A trial by Provincial Judges would be embarrassed by the rule, that a question of

inter-state boundaries is not a question for the Courts of either State to enter upon, and that in such a case the possession *de facto* is all which the courts have to ascertain and regard.

(5) The unsuitableness of an adjudication in Manitoba was increased by the fact of the judicial opinion in that Province appearing to be, that this rule applied to a locality in which the two Governments had their officers and claimed and exercised jurisdiction : and moreover that the rule required a Manitoba Judge to punish, as criminal offences against his Province, acts otherwise innocent, and even obligatory, on the part of officers of this Province.

Failing the Manitoba Courts, it was the interest of Manitoba that the question should be determined in any way, rather than to continue to distract the country by two systems of law, and by local contentions with the officers of this Government. The territory in dispute adjoins Manitoba, and its population must always have close business connections with that Province, as the Eastern part of Ontario has with the adjoining District of the Province of Quebec, and as all Upper Canada formerly had with the City of Montreal. The prosperity of the disputed territory, whether it forms part of the one Province or the other, is thus of importance to Manitoba, and was retarded by the state of things described.

Accordingly, after the events of the 20th November last, the Manitoba Government became willing (whatever they had been before) to have the question determined by any competent tribunal. This was not communicated to this Government, but was announced in an interview reported in the *Winnipeg Times*, an organ of the Manitoba Government. The Premier of Manitoba, referring in that interview to the recent proceedings at Rat Portage, said that the sole object of his Government was, to get the Government of Ontario to consent to a reference of the question of jurisdiction to the Supreme Court or some other competent tribunal, as a preliminary step towards the settlement of the boundary dispute which, he said, his Government was anxious should take place as soon as possible ; that they would be happy to have a reference agreed to by the Ontario Government, the result of which would relieve both parties of the uncertainty of the jurisdiction claimed by them : and that if the Ontario Government would submit to a friendly investigation before a competent tribunal, they would be only too glad to consent. He said further that his Government was acting in no hostile spirit, but merely wished to test the jurisdiction, and would have the reference before any court that might be mutually agreed upon. So in an interview reported in the same newspaper on the 21st November, the Attorney General of the same Province, referring to the same recent proceedings at Rat Portage, stated the object to have been, to endeavour if possible to raise a test question, and said he was satisfied with the action of the Ontario officials, and believed it would greatly hasten the desired settlement.

On the 21st November, the undersigned sent the following telegram to the Attorney General of Manitoba : " What is the use of Ontario and Manitoba quarrelling ? I wish you would meet me here to try our hands at an arrangement. I will be in Toronto the remainder of this week and the latter half of next. Other business will take me to Ottawa first half of next week." After communicating with the Federal Minister of Justice, Mr. Miller on the 24th November telegraphed to the undersigned as

follows: "I regret that there should be any occasion for Manitoba and Ontario quarrelling but we must have the question settled. If Mr. MacMahon's proposed basis of agreement is accepted, it will not be necessary for me to go down to meet you, but sooner than have a failure in settling the basis, I would, although at considerable personal inconvenience, go down." To this telegram the undersigned sent the following reply: "I am glad that you are resolved that the boundary question shall be settled. It cannot be done by telegraph. I shall be glad to see you here." On the 26th November, an Order in Council was passed by the Manitoba Government, reciting these telegrams, and authorizing Mr. Miller to proceed forthwith to Ontario to arrange with this Government the basis on which the question of a proper tribunal for final adjustment might be submitted. The Hon. Minister of Agriculture was associated with him for this purpose.

The negotiation with the undersigned in pursuance of this authority took place at Toronto, and was begun on Saturday, 1st December, and concluded on the 15th of the same month. Mr. Miller during this period visited Ottawa in order to confer with Dominion Ministers on the subject, and afterwards informed the undersigned, as the result of his interviews with them, that, in case of the two Provinces coming to an agreement an Order in Council would be passed at Ottawa requesting the Governor-General to move her Majesty the Queen to submit the Case between the two Provinces for the opinion of the Judicial Committee of the Privy Council, and agreeing that the Dominion shall be bound by the opinion so to be given, as to the Western boundary of Ontario; and would by a request made to the Colonial Minister, procure an Act of the Imperial Parliament to legalize that opinion, so that the Act when passed would bind not only Manitoba and Ontario, but also the Dominion."

In reliance on this assurance, the undersigned has agreed with the Ministers of Manitoba on a basis of settlement, subject to the approval of your Honour in Council. A copy of the document accompanies this Report.

It is the object of the Agreement, as expressed in that instrument, "to have the question of the title to the disputed territory set at rest at the earliest day as between the two Provinces, so far as the same is possible by the action of the said Provinces;" and "to avoid unnecessary conflicts or collisions in the meantime between the courts or officers of the two Governments, and to make the best practicable arrangement on which the two Governments can now unite, as to matters within Provincial Jurisdiction, the Administration of Justice, and the preservation of Peace and Order."

The first and second clauses of the Agreement provide that—"neither Government is to be understood by this agreement as abandoning any claim such Government has heretofore made or had to or in the Disputed Territory or any part thereof;" and that "neither Government is to be required to withdraw its Courts and officers from those parts of the territory in which they have hitherto assumed to exercise jurisdiction, but the future exercise of such assumed jurisdiction is to be subject to the provisions hereinafter contained."

By another clause it is declared that, "the present Agreement is understood to be entered into on the part of the Ontario Government without prejudice to any question which there has been or may be between the Dominion and Ontario Governments in relation to the territory in dispute between them, or in relation to any matters which

have been the subject of negotiation or correspondence between the Dominion and Ontario Governments; and the rights or claims of the Province of Ontario as to the same are hereby expressly reserved."

The following are the principal advantages which the agreement secures to this Province, and Manitoba derives from it (see Annexes):

1. The validity of the Award is to be the first question for judicial decision. It will be remembered that the proposals of the Dominion Government involved an abandonment of the Award.

2. The tribunal to which the matter is to be referred is the Privy Council—the tribunal proposed by this Province from the first in the event of the Federal authorities continuing to resist the Award. The Dominion proposal of a suit in the Supreme Court or a reference to an English ex-Judge, and the efforts of Manitoba to have the question between the two Provinces adjudicated upon by the Courts of Manitoba, are now definitely abandoned.

3. The agreement as to the Reference is to be forthwith ratified by the two Provincial Legislatures, so that after the decision no question can be raised by either Province as to the right of its Government to refer the matter, or as to the binding character of the decision, without statutory approval by the Legislature.

4. The Agreement secures the settlement by the 15th April, 1884, of all questions as to what evidence shall go before the Privy Council. By the only proposal which the Dominion Government ever made before communicating the Resolution of the Commons, of the 4th April, 1882, it was stipulated that the evidence, though collected during several years with great care and at great expense for the three Arbitrators, should be taken anew before the tribunal to be selected,—a proposal which involved indefinite delay, trouble and expense. The proposal in the Resolution was, that the Reference should be based on "the evidence collected and printed, with any additional documentary evidence if such there is;" the evidence was therefore to include, as well everything theretofore collected and printed at any time for any purpose, as also any documentary evidence not before collected or printed; and no proposal or suggestion was made to us as to any mode of deciding on the admission of any of the many pieces of evidence or alleged evidence for which, under such an agreement, either party should afterwards see fit to claim admission. Thus in case a reference had been agreed to in terms of this Resolution, nothing would have been accomplished towards securing an early hearing of the dispute; either party would have had unlimited discretion as to the time which the negotiation in regard to the particulars mentioned should from time to time occupy; and the other party would have no means of preventing indolent or designed delay.

In the despatch of the Federal Government there was declared to be, in the view of that Government, "difficulty of agreeing on the facts and a settlement of a Case to be submitted to the Privy Council," and this difficulty, according to the same view, was so great as to constitute a principal reason for preferring a new arbitration of the whole subject by an English ex-Judge, before whom all the evidence should be taken anew, and the question decided as one of law. The Federal Premier had previously expressed an opinion that the matter could only be decided by a slow trial. The Agreement now

submitted puts an end to all possibility of a slow trial, and solves the question which, as between the Dominion and Ontario, was to be alarmingly difficult.

The undersigned has already referred to the fact, that a prominent objection made by the Government to the proposal of a suit in the Supreme Court, on the ground of a reference to a Judge, would be a delay of the case. As to the former, it was pointed out that "if the object were delay, no better means of delaying a conclusive decision could be devised." The proposed reference to an English Judge was declined as "standing next in order as a means of indefinite delay." In another despatch of Your Honour, it was pointed out that even "a reference to the Judicial Privy Council * * * would involve much loss of time;" but it was observed, that the evils arising from the course of the Dominion Government in disputing our title "are so great, and are increasing so rapidly, and it is so important that the Province should without further delay secure peaceable possession of whatever limits it is entitled to, that my Government would be willing, with the concurrence of the Legislature, to submit the matter to the Privy Council, on condition of consent being given by the Dominion Government and that of Manitoba, and by the Parliament of Canada and the Legislature of Manitoba, to just arrangements for the government of the territory in the meantime."

By the present Agreement the evidence already taken is to stand. Any further evidence not definitely decided upon by the 15th April, 1884, is excluded. June or July, 1884, is specifically named for the hearing; and, after the ratification of the Agreement, no step in the further proceedings is to require the concurrence of any other party. Delays by either are thus shut out; and the hearing at the time specified is secured.

4. This immediate hearing, on the part of the Province, by the trial of best resort induces to a minimum the occasion for provisional or interim arrangements. Some, which would otherwise be necessary, cease to be of practical value, and the importance of all others is greatly diminished. It was one thing to provide for an interval of indefinite duration, and it is another thing to provide for a certain fixed interval of a few months only. In the negotiations with the Federal Government, when the prospect of a "slow trial" had to be contemplated, this Government suggested the provisional arrangements which seemed on this account to be adequate and proper. But it was repeatedly intimated that, if the Federal Government "was not willing to consent to the arrangements suggested," this "Government would be glad to be informed what the best terms are to which the" Federal Government was "prepared to agree for the final settlement of the question of right, and for the provisional government of the territory in the meantime." It has been mentioned that the only communication from the Federal Government containing anything on this subject were the two despatches of the 27th January, and 2nd September, 1882.

(5) The tract for which interim arrangements are specially needed, is the territory South and East of the Heights of Land, and as regards this, that it has been already stated that, so far as the subject can be dealt with by the Governments and Legislatures of the two Provinces, the Agreement includes absolutely all that this Government ever proposed.

(6) With reference to the remainder of the territory, while on the one hand the Agreement secures important advantages, it on the other hand does not put either Province in a worse position in any respect for the next few months than such Province would

have occupied if the Agreement had not been entered into. The *status quo* is accepted on both sides, and its evils are alleviated as far as was found practicable. Local collisions and conflicts between the two Provinces are put an end to; municipal government is provided for; and harmony between the Provinces in the Administration of Justice and preservation of order is secured. From an Ontario standpoint it would have been better, and would have been just and reasonable, that the interim arrangements which have been agreed to as to the territory South and East of the Height of Land should be agreed to with respect to the territory North and West also; but, failing to obtain this concession, the arrangements made are of importance to the territory, and to both Provinces.

(7) Another important provision of the Agreement is, that in case of any litigation arising between other parties before a decision is obtained on the Case, the Courts, in all matters within Provincial jurisdiction, are to take judicial notice of the evidence which is agreed upon for the Privy Council. This will prevent the question from being meanwhile considered by any Court on haphazard and incomplete materials, and will also prevent either party to any such litigation from putting the other, or being himself put, to the great expense of proving, or attempting to prove, in the ordinary technical way, the numerous important documents and facts which relate to the question.

(8) As the Agreement provides for all matters within the jurisdiction of the Provinces, it clears the way for an agreement with the Dominion in like terms respecting the rest of the territory, and the interim disposition of the lands and timber.

Thus, the policy pursued of maintaining the position of the Province at Rat Portage notwithstanding the difficulties placed in our way, has proved successful. Within a few months, that policy has brought about an Agreement between the two Provinces which as between them secures the earliest possible termination of the dispute, at the least possible expense, in the most convenient practicable way, and by the best possible tribunal now open to us. Lastly, in connection with these signal advantages, the Agreement secures for Ontario (so far as matters of Provincial jurisdiction are concerned) interim arrangements which, as to part of the territory, are all we ever asked, and as to the remainder of it, are more just and adequate than any ever before offered for our acceptance.

The undersigned therefore respectfully recommends that the Agreement be adopted by your Honour in Council, and that the undersigned be authorised to sign the same.

18th December, 1883.

O. MOWAT.

The Agreement was printed in the Sessional Papers of 1884, No. 3.

14. COPY OF AN ORDER IN COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT-GOVERNOR THE 20TH DAY OF DECEMBER, A. D. 1883.

Upon reading the report of the Honourable the Attorney-General, bearing date the 18th day of December instant, and the proposed basis of agreement therein mentioned respecting the territory in dispute between this Province and the Province of Manitoba, the Committee of Council advise that the said basis be concurred in, and that the Attorney-General be authorized to sign the same on behalf of the Government of Ontario.

(Certified) J. G. SCOTT,
Clerk Executive Council, Ont.

~~15.~~ ORDER IN COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT GOVERNOR THE 11TH DAY OF JANUARY, 1884.

Upon the recommendation of the Honourable the Attorney-General the Committee of Council advise that the Dominion Government be requested to advise His Excellency the Governor-General to transmit to Her Majesty the Case which has been agreed to between the two Governments of Ontario and Manitoba with respect to the Western Boundary of this Province, and to crave Her Majesty that she be pleased to refer the said Case to the Judicial Committee of the most Honourable Privy Council for hearing and consideration, in order that the opinion of the Committee upon the questions stated in the said Case should be obtained in accordance with the agreement between the said Governments of Ontario and Manitoba.

J. G. SCOTT,
Clerk Executive Council, Ontario.

~~16.~~ DESPATCH OF LIEUTENANT-GOVERNOR TO SECRETARY OF STATE.

GOVERNMENT HOUSE, ONTARIO,
TORONTO, 12th January 1884.

SIR,—I have the honour to request that, agreeably to the information given to the Honourable James Miller and communicated through him to my Government, your Government will be pleased, on the earliest possible day, to advise His Excellency the Governor-General to recommend Her Majesty to request the Judicial Committee of the Privy Council to decide the Case which has been agreed to between the two Governments of Ontario and Manitoba with respect to the Western Boundary of this Province. A copy of a Minute in Council of my Government on the subject is herewith transmitted.

I presume that by the time this despatch reaches you, you will have received a despatch from His Honour the Lieutenant Governor of Manitoba to the same effect.

To avoid any possible occasion for delay of action in regard to the reference to which the two Provincial Governments have agreed, I reserve for a separate despatch all other matters connected with the boundary dispute, or its settlement.

I have, etc.,

JOHN BEVERLEY ROBINSON,
Lieutenant-Governor of Ontario.

~~17.~~ DESPATCH OF SECRETARY OF STATE TO LIEUTENANT GOVERNOR IN ACKNOWLEDGMENT, 14TH JANUARY, 1884.

OTTAWA, 14th January, 1884.

SIR, I have the honour to acknowledge the receipt of your despatch of the 12th inst., transmitting an approved minute of the Executive Council of the Province of Ontario, of the 11th inst., advising that this Government be requested to move His Excellency the Governor-General, to transmit to Her Majesty the Queen, the case which has been agreed to between the Governments of Ontario and Manitoba, on the subject of the western boundary of Ontario, with a view to its being referred to the Judicial Committee of the

Most Honourable the Privy Council for hearing and consideration, and to state that the matter will receive due consideration.

I have the honour to be, sir,

Your obedient servant,

G. POWELL,

His Honour,

Under Secretary of State.

THE PARLIAMENT BUILDINGS, OTTAWA.

Toronto.

18. COPY OF LETTER OF THE ATTORNEY-GENERAL TO OTTAWA DATED 24th

JANUARY, 1884.

The undersigned has had under further consideration the matters in dispute between the Dominion and this Province in reference to the northerly and westerly parts of the Province, and has the honour to submit the following report :

The Agreement of the 18th December last between the two Provinces was necessarily limited to so much of the disputed territory as is claimed by the Province of Manitoba under the Extension Act of the Parliament of Canada passed in 1881. The Agreement provides for all matters within the jurisdiction of the Provinces in reference to this part of the disputed territory, and thus clears the way for an agreement with the Dominion concerning the rest of the territory, and concerning the interim disposition of the lands and timber.

In the course of the negotiations which terminated in this Agreement, it was ascertained through the Attorney-General of Manitoba that, in the event of the two Provinces coming to an agreement, an Order in Council would be passed at Ottawa advising His Excellency the Governor-General to move Her Majesty the Queen to submit for the opinion of the Judicial Committee of the Privy Council the Case agreed on between the two Provinces for that purpose ; that the Dominion would consent to be bound as far as the boundary between Manitoba and Ontario is concerned by the opinion that might be expressed by the Privy Council ; that the Dominion Government would procure an Act to be passed by the Federal Parliament confirming or legalizing such opinion, and would advise His Excellency the Governor-General to request the Colonial Minister if necessary to procure an Act of the Imperial Parliament for the same purpose ; so that all possible question as to the boundary between the two Provinces would be put an end to. On this understanding, the negotiations between the two Provinces proceeded, and the agreement was signed on behalf of both Provinces.

In the despatch of Your Honour dated 31st December, 1881, it was stated that this Government would be willing, with the concurrence of the Legislature, to submit the question in dispute with the Federal Government to the Privy Council, on condition of consent being given by the several Governments and Legislatures concerned to just arrangements for the government of the country in the meantime. In the reply of the Federal Government of the 27th January, 1882, that Government expressed their preference for a different mode of settlement, proposed (what seemed to the undersigned) very inadequate provisional arrangements, but intimated their willingness to leave the

Boundary question to the Judicial Committee of the Privy Council, if that course should be preferred by the two Provinces of Ontario and Manitoba. On the 4th April, 1882, the House of Commons passed a resolution intimating its approval of a reference to the Privy Council, but proposing no interim arrangement with respect to any matter except the management of the lands (which is hereinafter referred to). The two Provinces have now agreed to a reference to the Judicial Committee, and have agreed also to interim arrangements so far as these lie within Provincial jurisdiction.

The undersigned recommends that the Dominion Government be urged to become for all purposes a party to this reference; and to agree to a supplementary Case, to be heard on the same evidence as the Case agreed on between the two Provinces, and at the same time, and to be subject to the same terms. The object of this proposal is, that our whole westerly boundary and northerly boundary may be conclusively determined by the judgment of the Privy Council, and not merely to the extent to which under the Manitoba Extension Act the question concerns Manitoba.

With respect to provisional arrangements with the Dominion, the most important relate to the Crown Lands and timber in the disputed territory. The Dominion Government has not refrained from dealing with these since the Award. The undersigned recommends that that Government be again urged to discontinue all such transactions until the right to such land and timber is determined by judicial authority, and to agree to a Case for the Privy Council as to the right to any Crown Lands and timber which the Federal Government claims to control, whether the territory is in Ontario or not. The immediate decision of this claim is obviously desirable.

The undersigned recommends, also, that it be proposed to the Federal Government that the interim management of the lands and timber be hereafter left to this Government, subject to the statutory enactments and public regulations on which such management proceeds in the undisputed parts of Ontario; or on some other reasonable terms.

If the Dominion Government will not be a consenting party to such management as respects the whole territory, the undersigned recommends that it be proposed that, as respects the land and timber south and east of the Height of Land dividing the waters which flow into the Great Lakes from those which flow into Hudson Bay, the Dominion Government do withdraw, pending the dispute, any claim to interfere with the customary administration of the same by this Province; and that, as respects the land and timber in the rest of the territory, that Government be invited to state, in reference to the Commission proposed by the Resolution of the House of Commons, the views of the Government on those questions to which attention was called in the despatch of this Government of the 15th November, 1882, viz:—How the commission should be constituted; of how many members it should consist; what the tenure of the office should be; and what the powers of the Commissioners.

By the Resolution of the House of Commons in 1882, it was proposed, "that pending the reference, the administration of the lands" should "be entrusted to a Joint Commission, appointed by the Governments of Canada and Ontario." In the report of the undersigned on this Resolution, it was pointed out that the proposition which the Resolution offered for the management of the lands, was "so vague and indefinite as to

make impossible its intelligent consideration ;" and the defects were specified, namely, that the Resolution did not "suggest how the land commission now proposed is to be constituted ; of how many members it is to consist ; how many of the number are to be appointed by each party ; what the tenure of the office is to be ; or what are to be the powers of the Commissioners. Nor does the despatch under consideration give the views of the Dominion Government in regard to any of these particulars." It was further observed that "it is obvious, that on these the usefulness of the commission or the propriety of acceding to the proposal essentially depends. The policy of the Federal Government in dealing with Crown Lands, is understood to be different from the policy which is pursued by this Government, and which has, as we believe, been proved by experience to be for the general interest. Thus, while the Dominion Government favours sales to land companies, the Ontario policy is to confine grants to actual settlers ; and in order to encourage settlement, provides for free grants to settlers in determinate portions of Crown territory." This despatch has not been answered, though fourteen months have since elapsed. But, as so many points have been arranged between the two Provinces, it is reasonable now to hope that the remaining points, in which the Dominion and Ontario alone are concerned, may be arranged also.

In view of the delay of the Dominion Government in answering that despatch, the undersigned, to expedite the matter, recommends that in case that Government declines to concur in any other interim arrangement for the management of the lands North and West of the Height of Land, the following suggestions be offered for the consideration of the Dominion Government : (1) That the Commission do consist of two persons, one to be appointed by each Government ; (2) That the Commissioners shall have the powers which the Public Lands Act, and the Free Grants and Homestead Act, of Ontario confer on the Lieutenant-Governor in Council and on the Commissioner of Crown Lands respectively, and shall be governed by the provisions of these Acts ; or, if the Dominion Government prefer any variations, that that Government be respectfully requested to communicate the same without further delay, for the consideration of this Government ; and (3) that proper provision be made for filling vacancies and paying expenses,—as to which the Dominion Government may be invited to make suggestions for consideration.

The 25th article of the Agreement between the two Provinces provides that, with respect to suits and actions which may be hereafter brought, and to matters which may hereafter take place, and to offences which the Provinces have jurisdiction to deal with in this behalf, the Courts, Judges, Magistrates, and other officers of each Province shall have the same jurisdiction in the disputed territory North and West of the Height of Land as if the territory were in such Province. This may require confirmation by a Dominion enactment so far as relates to Judges whose officers are in the appointment of the Dominion Government. So, an enactment to the effect of this article is proper with respect to crimes and offences over which the Provinces have not jurisdiction.

The 36th article of the Agreement is as follows:—"If in any suit or proceeding within Provincial Jurisdiction the Boundary between Ontario and Manitoba do in the meantime come in question, the Court or other Judicial authority before which the

question arises is, in dealing therewith, to take judicial notice of all the documents and facts which it is above agreed to submit to the Privy Council on the same question and without the said documents and facts being put in evidence before such court or other judicial authority, and is to have power to draw such inferences from the said documents and facts as may be necessary." It is desirable that there should be a Dominion enactment to this effect with respect to suits and proceedings within the jurisdiction of the Dominion Parliament.

There are thus four matters requiring Dominion action :—(1) Extending the Reference to the Privy Council so as to embrace the whole subject of our Northerly and Westerly boundaries ; (2) a Reference to the Privy Council as to the claim of the Dominion Government to certain lands and timber in the territory ; (3) an arrangement as to the management of these in the meantime ; and (4) the Dominion legislation suggested by the 25th and 36th articles respectively of the Agreement with Manitoba.

All which is respectfully submitted.

23RD JANUARY, 1884.

O. MOWAT.

19. DESPATCH FROM SECRETARY OF STATE, TO LIEUTENANT GOVERNOR OF ONTARIO,
29TH JANUARY, 1884.

DEPARTMENT SECRETARY OF STATE,

OTTAWA, 29th January, 1884.

SIR,—I have the honour to acquaint you, for the information of your Government, that His Excellency the Administrator of the Government has had under his consideration in Council the subject of the conventional boundary of the Province of Ontario on the West and North-west.

His Excellency is advised that, under an Order in Council, dated the 3rd June, 1874, on the 26th day of that month, the Government of the Dominion, being represented by Mr. Laird, Minister of the Interior, and the Government of Ontario, by Mr. Pardee, Commissioner of Crown Lands, an arrangement was entered into between the Dominion of Canada and the Province of Ontario, under which a conventional boundary of the Province of Ontario on the West and North-west was agreed to and described, and was to be recognized by both Governments, until "the true West and North-west boundaries should be definitely adjusted," which arrangement was ratified by an Order in Council, dated the 8th July, 1874, and in Ontario by an Order in Council, dated the 9th of the same month.

His Excellency is also advised, that in a despatch addressed by you to the Secretary of State, dated the 31st December, 1881, the following language is used :—

"On the 26th June, 1874, a provisional arrangement was made for the sale of lands in the disputed territory, which arrangement was in force from its date until the 3rd August, 1878, when the award was made" meaning the award of Mr. Chief Justice Harrison and his associates).

His Excellency is further advised, that it has been stated that active steps towards assuming the possession and government of the country West and North-west of the conventional line have since been taken by the Government of Ontario.

Under these circumstances, the action of the Government of Ontario in abrogating the conventional boundary, is acquiesced in by the Government of Canada.

I have the honour to be, sir,
Your obedient servant,

L. S. TILLEY,

Hon. LIEUTENANT-GOVERNOR OF ONTARIO,
Toronto.

Acting Secretary of State.

20. DESPATCH OF LIEUTENANT-GOVERNOR IN ACKNOWLEDGMENT, 31st JANUARY, 1883.

GOVERNMENT HOUSE,

TORONTO, 31st January, 1883.

SIR, -I have the honour to acknowledge the receipt of your despatch of the 29th inst., referring to the subject of the Conventional Boundary of the Province of Ontario on the West and North-west.

I have the honour to be, sir,
Your obedient servant,

J. B. ROBINSON,

Hon. SECRETARY OF STATE.

Lieutenant-Governor of Ontario.

21. DESPATCH OF LIEUTENANT-GOVERNOR TO SECRETARY OF STATE, 31st JANUARY, 1884.

31st January, 1884.

SIR,—With further reference to the agreement of the 18th December last, between the Provinces of Manitoba and Ontario, with respect to so much of the disputed territory as is claimed by the Province of Manitoba, under the Extension Act of the Parliament of Canada, passed in 1881, and having regard to the desirability of the Dominion Government becoming for all purposes a party to the reference of the matters in dispute to the Judicial Committee of the Most Honourable the Privy Council, and agreeing to a supplementary case to be heard on the same evidence as the case agreed to between the two Provinces, and at the same time, and subject to the same terms, I have now the honour to transmit to you herewith, for the consideration of the Dominion Government, a copy of an approved order of the Executive Council of this Province, together with a copy of the Report of the Honourable the Attorney-General therein referred to.

I have the honour to be, sir,
Your obedient servant,

JOHN BEVERLEY ROBINSON,

The Honourable

Lieutenant-Governor of Ontario.

THE SECRETARY OF STATE, Ottawa.

22. ORDER IN COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT GOVERNOR, 31ST JANUARY, 1884.

Copy of an Order in Council approved by His Honour the Lieutenant Governor, the 31st day of January, 1884:

The Committee of Council have had under consideration the annexed report of the Honourable the Attorney General, dated 23rd January, 1884, with reference to the Northerly and Westerly parts of the Province of Ontario, and advise that the same be approved of by Your Honour, and that a copy thereof be transmitted to the Secretary of State for the consideration of the Government of Canada.

Certified,

J. G. SCOTT,

Clerk Executive Council.

The Honourable

THE PROVINCIAL SECRETARY.

23. DESPATCH OF THE SECRETARY OF STATE IN ACKNOWLEDGMENT, 1ST FEBRUARY, 1884.

OTTAWA, 1st February, 1884.

SIR, — I have the honour to acknowledge the receipt of your despatch, No. 118, of the 31st ultimo, transmitting for the information of this Government a copy of an approved Minute of the Honourable the Executive Council of the Province of Ontario, dated the 31st ultimo, together with a copy of the report of the Honourable the Attorney General, dated the 23rd ultimo, therein mentioned, having further reference to the agreement of the 18th December last, between the Province of Ontario and Manitoba with respect to the Boundary Question, and to state that the matter will receive due consideration.

I have the honour to be, Sir,

Your most obedient servant,

G. POWELL,

Under Secretary of State.

To His Honour

THE LIEUTENANT-GOVERNOR OF ONTARIO,

Toronto.

24. DESPATCH OF SECRETARY OF STATE 18TH MARCH, 1884,

OTTAWA, 18th March, 1884.

SIR, — I have the honour to inform you for the information of your Government that His Excellency the Governor General has had under consideration in Council your despatch of the 31st January last, transmitting a copy of an Order of your Executive Council, covering a Report, dated the 23rd of the same month, from your Attorney General, with reference to the Northerly and Westerly parts of the Province of Ontario, concerning which I am to acquaint you that many matters are discussed, and four enumerated as "requiring Dominion action," in connection with the recent agreement between the

Government of Ontario and that of the Province of Manitoba to submit the question of the true line of the boundary separating them the one from the other to the decision of the Judicial Committee of Her Majesty's Privy Council.

These are stated to be :

" 1. Extending the reference to the Privy Council so as to embrace the whole subject of our (Ontario) Northerly and Westerly boundaries."

" 2. A reference to the Privy Council as to the claim of the Dominion Government to certain lands and timber in the Territory."

" 3. An arrangement as to the management in the meantime," and

" 4. The Dominion legislation suggested by the 25th and 36th Articles respectively of the Agreement with Manitoba."

As regards the first of these, extending the reference to the Privy Council "so as to embrace the whole subject of the northerly and westerly boundaries of Ontario," this Government is of opinion that it is desirable to settle now and forever the whole Westerly and Northerly boundary, and believes that the case, as it will be presented to the Judicial Committee of the Privy Council, will afford such material as is available for the further purpose referred to.

As the western boundary between Ontario and the Territory of Keewayden (Keewatin) is the continuation of the line between Ontario and Manitoba, and the northern boundary of Ontario is the southern limit of Rupert's Land upon which the line of the Western boundary depends, the submission of the further questions would seem therefore expedient and opportune, and this Government is of opinion that it is desirable, if their Lordships so please, that their decision should cover the additional ground referred to in your despatch before mentioned.

As regards the second, a reference to the "Privy Council as to the claim of the Dominion to certain lands and timber in the territory," questions of the ownership of real property within the limits of a province depend on considerations quite apart from those which affect its boundaries, and must be governed by the laws in force in each province, and be decided by its ordinary tribunals in the usual course of the administration of justice.

This Government is therefore of opinion that it is not in the power of the Executive Government, nor is it expedient to assent to any mode of dealing with these questions apart from the ordinary laws of each province, and is accordingly unable to advise compliance with the suggestion in your despatch on this head.

Then as to an arrangement as to management in the meantime ; what is meant here is elaborated in a previous part of the report of your Attorney-General, in which he says, "with respect to provisional arrangements with the Dominion, the most important relate to the Crown Lands and timber in the disputed territory," and your Government propose that "the interim management of the lands and timber be hereafter left to that Government ; subject to the statutory enactments and public regulations on which such management proceeds in the undisputed parts of Ontario ; or, on some other reasonable terms," or "if the Dominion will not be a consenting party to such management as respects the whole territory," they propose that "as respects the land and timber south and east of the Height of Land, dividing the waters which flow into the great lakes from

those which flow into Hudson's Bay, the Dominion Government do withdraw, pending the dispute, any claim to interfere with the customary administration of the same by Ontario, and that as respects the land and timber in the west of the Height, the Government of the Dominion be invited to state how the Commission proposed by the Resolution of the House of Commons in 1882 should be constituted, of how many members it should consist; what the tenure of the office should be, and what the powers of the Commissioners."

This Government judges that it is not expedient to draw any distinction between the land and timber to the east of the Height of Land referred to, and the land and timber to the west thereof, and the proposition that your Government should be left in exclusive possession of the land to the east, whilst a joint commission should be appointed to govern the land to the west, is manifestly unfair. The corollary to the proposition of Ontario on the first point would be to withdraw entirely their pretensions as regards the land and timber to the west of the Height of Land, and to leave the Governments of the Dominion and Manitoba in exclusive control in that portion of the disputed Territory.

This Government is further of opinion that the Joint Commission proposed by the Resolution of the House of Commons in 1882, referred to in your despatch, should be composed of two members, one to be appointed by the Government of the Dominion and one by that of the Province of Ontario; that the tenure of office should be as fixed by the respective Governments; that the powers to be entrusted to the Commissioners should be settled by the Minister of the Interior of the Dominion, with such member of the Government of Ontario as might be appointed by the Executive thereof for that purpose, and should not exceed those by the General Land Acts of the Dominion and of the Province of Ontario conferred upon the Executive Officers administering their respective lands; and in framing rules for the guidance of the Commissioners reference should be had to the Land Acts both of the Dominion and of the Province of Ontario.

I have observed in the Report of your Attorney-General that it is stated "the policy of the Dominion Government is understood to be different from that which is pursued by the Government of Ontario, and which has, as that Government believes, been proved by experience to be for the general interest. Thus, while the Dominion Government favours sales to land companies, the Ontario policy is to confine grants to actual settlers, and in order to encourage settlement provides for free grants to settlers in determinate portions of Crown Territory," and that the despatch in which this information was communicated has not been answered, though fourteen months have elapsed since it was transmitted.

In answer to which I am to state that the Government of the Dominion have to deal with lands in all parts of a widely extended area. In certain localities it has been found expedient to sell to land companies, in other parts, not; and the laws have been adapted to meet the exigencies of the position of the Executive of the Dominion; they have not made any sales to land companies nor do they propose to make any in the territory in dispute, which would seem sufficient for the consideration of this question.

No object could have been accomplished by continuing a correspondence with the Province of Ontario on the general land policy of the Dominion, and, therefore, the suggestions of your Government, as embodied in your despatch of the 15th of November, 1882, were not replied to.

I would also observe, that while your Attorney-General deprecates the issuing of timber licenses by this Government in the disputed Territory, he does not affirm what the course of your Government has been in regard to this matter. This, it is desirable, this Government should be informed of.

With reference to the Dominion legislation, suggested by the 25th and 36th Articles respectively of the Agreement between the Province of Ontario and that of Manitoba, the 29th Article is in the following words :

"With respect to suits and actions hereafter brought, or with respect to matters which may hereafter take place, respectively, and with respect to all offences which the Provinces have jurisdiction to deal with in this behalf, the courts, judges, magistrates, sheriffs and other officers of each Province shall have the same jurisdiction in the disputed Territory North and West of the Height of Land as if the territory were in such Province."

To legislate precisely in the line here indicated, would be to draw a distinction between the land to the North and West of the Height of Land and that to the South and East which this Government think inexpedient, but they see no objection to any legislation which might be necessary in the direction indicated, so only that it shall affect the whole territory in dispute.

The 36th Article of the Agreement is in the following words: "If, in any suit or proceeding within Provincial jurisdiction, the boundary between Ontario and Manitoba do, in the meantime, come in question, the court or other judicial authority before which the question arise is, in dealing therewith, to take judicial notice of all the documents and facts being put in evidence before such Court or other judicial authority, and is to have power to draw such inferences from the said documents and facts as may be necessary."

I am to inform you that with reference to this, this Government are of opinion that legislation by Parliament is unnecessary as regards this paragraph of the Agreement with Manitoba. They cannot conceive any circumstances arising anterior to the time when the decision of the Judicial Committee of the Privy Council may be expected which would render necessary legislation on the part of the Dominion, and they think it inexpedient after having referred the whole matter to the Judicial Committee to provide for the points involved being heard here in advance of the decision of that tribunal, and they are unable therefore to advise concurrence in the view expressed by your Attorney-General in this respect.

I have the honour to be, Sir,

Your obedient servant,

J. A. CHAPLEAU,

Secretary of State.

To His Honour

THE LIEUTENANT-GOVERNOR OF ONTARIO,

Toronto.

P.S.—A despatch to the above purport has been addressed to His Honour the Lieutenant-Governor of Manitoba for the information of his Government.

22. DESPATCH OF HIS HONOUR THE LIEUTENANT GOVERNOR, 29TH APRIL, 1884, IN REPLY.

29th April, 1884.

SIR, I was glad to be informed by your despatch of the 18th March that your Government acceded to the proposal for extending the reference agreed to by this Province and the Province of Manitoba, so that the opinion of the Judicial Committee of the Privy Council may be obtained at the same time with regard to the whole question of our Northerly and Westerly boundaries, Manitoba being, as a Province, interested in the question as to part only of these boundaries. I have since learned with satisfaction that your legal adviser here is in communication with my Attorney-General on the subject, and has manifested every desire to secure a hearing as respects the Dominion, and otherwise, at the time stipulated by the two Provinces.

But my Government regrets that in the despatch referred to the Dominion Government declines to refer to the Judicial Committee the claim of the Dominion to the ownership of certain lands and timber in the territory. It seems to my Government that if, as your despatch suggests, the question of such ownership depends "on considerations quite apart from those which affect" the Provincial boundaries, these considerations might as easily be set forth in a special case for the immediate consideration of the Privy Council, as to be first brought before the ordinary tribunals "in the usual course of the administration of justice;" and, inasmuch as any decision by these tribunals would be subject to appeal to the Privy Council, my Government fails to perceive on what ground it is thought to be "not in the power of the Executive Government," or not "expedient," to refer the question to the Privy Council in the first instance without the delay or expense of first resorting to the ordinary tribunals here. It would gratify me very much if your Government would, on reconsideration, recognize the force of this view, and thus enable the whole controversy to be settled by the Privy Council in the same term.

With respect to the interim management of such lands and timber, it seems to my Government that the matter may be more usefully discussed and disposed of by conference than by further correspondence, and I therefore refrain from further observations, and have requested my Commissioner of Crown Lands and some other member of my Executive Council to hold themselves in readiness for this purpose to meet the Minister of the Interior and any other of the Dominion Ministers at any day which the latter may name. An early day is of course important.

Since receiving your despatch my Government has deemed it right in view of the negotiations to refrain from all granting of licenses and sales of timber in any part of the disputed territory, and I presume that your Government has taken the same course.

If not, I take it for granted that immediate instructions will now be given to the proper Department to stay all transactions pending the negotiation and dispute.

I have the honour to be, Sir,

Your obedient servant,

JOHN BEVERLEY ROBINSON,

Lieutenant-Governor of Ontario.

The Honourable

THE SECRETARY OF STATE, Ottawa.

26. DESPATCH OF SECRETARY OF STATE IN ACKNOWLEDGMENT, 1ST MAY, 1884.

OTTAWA, 1st May, 1884

SIR,—I have the honour to acknowledge the receipt of your despatch, No. 118, of the 29th inst., on the subject of the northerly and westerly boundaries of the Province of Ontario, and to state that the matter will receive due consideration.

I have the honour to be, sir,

Your obedient servant,

HENRY J. MORGAN,

Acting Under Secretary of State.

His Honour

THE LIEUTENANT-GOVERNOR OF ONTARIO,

Toronto.

27. ORDER OF HER MAJESTY IN COUNCIL ON THE REFERENCE AS TO BOUNDARIES.

August 11, 1884.

At the Court at Osborne House, Isle of Wight, the 11th day of August, 1884.

Present :

THE QUEEN'S MOST EXCELLENT MAJESTY.

HIS ROYAL HIGHNESS THE PRINCE OF WALES.

Lord President,

Earl of Northbrook,

Lord Steward,

Sir T. Erskine May,

Earl Granville,

Sir A. Cooper Key.

Whereas there was this day read at the Board a Report from the Judicial Committee the Privy Council, dated the 22nd of July last past, in the words following, viz :—

“Your Majesty having been pleased by your Order in Council of the 26th June, 1884, to refer unto this Committee the humble petition of Oliver Mowat, Your Majesty's Attorney-General for the Province of Ontario, as representing that Province, and of James Andrews Miller, Your Majesty's Attorney-General for the Province of Manitoba, as representing that Province, in the matter of the boundary between the Provinces of Ontario and Manitoba, in the Dominion of Canada, between the Province of Ontario of the one part and the Province of Manitoba of the other part, setting forth that a question has arisen, and is in dispute, between the Provinces of Ontario and Manitoba respecting the western boundary of the Province of Ontario, and it has been agreed between those Provinces to submit such question to Your Majesty in Council for determination ; the following Special Case has accordingly been agreed upon between the petitioners as representing the two Provinces aforesaid.

“SPECIAL CASE.

“The Province of Ontario claims that the western boundary of that Province is either (1) the meridian of the most north-westerly angle of the Lake of the Woods, as described in a certain Award made on the 3rd August, 1878, by the Honourable Chief Justice Harrison, Sir Edward Thornton, and Sir Francis Hincks, or (2) is a line west of that point.

“ ‘The Province of Manitoba claims that the boundary between that Province and the Province of Ontario is (1) the meridian of the confluence of the Ohio and Mississippi Rivers, or (2) is that portion of the height of land dividing the waters which flow into Hudson’s Bay from those which empty into the valley of the Great Lakes, and lying to the west of the said meridian line.

“ ‘It has been agreed to refer the matter to the Judicial Committee of Her Majesty’s Privy Council, and an Appendix has been prepared containing the materials agreed to be submitted with this Case for the adjudication of the dispute; each and every of the particulars in the said Appendix is submitted quantum valeat, and not otherwise.

“ ‘In addition to the particulars set forth in the Appendix, any historical or other matter may be adduced which, in the opinion of either party, may be of importance to the contention of such party, and (subject to any rule or direction of the Judicial Committee in that behalf) such additional matter is to be printed as a separate Appendix by the party adducing the same, and copies are to be furnished at least 10 days before the argument.

“ ‘The book known as the Book of Arbitration Documents may be referred to in the argument for the purpose of shewing in part what materials were before the Arbitrators.

“ ‘It is agreed that in the discussion before the Judicial Committee of the Privy Council reference may be made to any evidence of which Judicial notice may be taken, or which (having regard to the nature of the case and the parties to it) the Privy Council may think material and proper to be considered, whether the same is or is not contained in the printed papers.

“ ‘The questions submitted to the Privy Council are the following :—

“ ‘(1) Whether the Award is or is not, under all the circumstances, binding?

“ ‘(2) In case the award is held not to settle the boundary in question, then what, on the evidence, is the true boundary between the said Provinces?

“ ‘(3) Whether, in case legislation is needed to make the decision on this case binding or effectual, Acts passed by the Parliament of Canada and the Provincial Legislatures of Ontario and Manitoba in connection with the Imperial Act 34 & 35 Vict., cap. 28, or otherwise, will be sufficient, or whether a new Imperial Act for the purpose will be necessary.

“ ‘O. MOWAT.

“ ‘Attorney-General of Ontario.

“ ‘JAMES A. MILLER,

“ ‘Attorney-General of Manitoba.’ ”

“ ‘And humbly praying that Your Majesty in Council will be pleased to take the said Special Case into consideration, and that the said Special Case may be referred by Your Majesty to the Lords of the Judicial Committee of the Privy Council to report thereon to Your Majesty at the Board, and that such Order may be made thereupon as to Your Majesty shall seem meet. The Lords of the Committee, in obedience to Your Majesty’s said Order of Reference, have taken the said humble Petition and Special

Case into consideration and having heard Counsel for the Province of Ontario, and also for the Province of Manitoba, their Lordships do this day agree humbly to report to Your Majesty as their opinion :—

“ 1. That legislation by the Dominion of Canada as well as by the Province of Ontario was necessary to give binding effect as against the Dominion and the Province to the award of the 3rd August, 1878, and that as no such legislation has taken place, the award is not binding.

“ 2. That, nevertheless, their Lordships find so much of the boundary lines laid down by that award as relate to the territory now in dispute between the Province of Ontario and the Province of Manitoba to be substantially correct and in accordance with the conclusions which their Lordships have drawn from the evidence laid before them.

“ That upon the evidence their Lordships find the true boundary between the western part of the Province of Ontario and the south-eastern part of the Province of Manitoba to be so much of a line drawn to the Lake of the Woods, through the waters eastward of that lake and west of Long Lake, which divide British North America from the territory of the United States, and thence through the Lake of the Woods to the most north-western point of that lake as runs northward from the United States boundary and from the most north-western point of the Lake of the Woods a line drawn due north until it strikes the middle line of the course of the river discharging the waters of the lake called Lake Seul, or the Lonely Lake, whether above or below its confluence with the stream flowing from the Lake of the Woods towards Lake Winnipeg, and their Lordships find the true boundary between the same two Provinces to the north of Ontario and to the south of Manitoba, proceeding eastward from the point at which the before mentioned line strikes the middle line of the course of the river last aforesaid to be along the middle line of the course of the same river (whether called by the name of the English River or, as to the part below the confluence, by the name of the River Winnipeg) up to Lake Seul or the Lonely Lake and thence along the middle line of Lake Seul, or the Lonely Lake, to the head of that lake, and thence by a straight line to the nearest point of the middle line of the waters of Lake St. Joseph, and thence along that middle line until it reaches the foot or outlet of that lake, and thence along the middle line of the river by which the waters of Lake St. Joseph discharge themselves until it reaches a line drawn due north from the confluence of the Rivers Mississippi and Ohio which forms the boundary eastward of the Province of Manitoba.

“ 3. That without expressing an opinion as to the sufficiency or otherwise of concurrent legislation of the Provinces of Ontario and Manitoba, and of the Dominion of Canada (if such legislation should take place), their Lordships think it desirable and most expedient that an Imperial Act of Parliament should be passed to make this decision binding and effectual.”

HER MAJESTY having taken the said Report into consideration was pleased by and with the advice of Her Privy Council to approve thereof and to order as it is hereby ordered that the same be punctually observed, obeyed, and carried into execution. Whereof the Governor-General of the Dominion of Canada, the Lieutenant-Governor of

the Province of Ontario, the Lieutenant Governor of the Province of Manitoba, and all other persons whom it may concern, are to take notice and govern themselves accordingly.

C. L. PEEL.

28. DESPATCH OF LIEUTENANT-GOVERNOR RESPECTING IMPERIAL LEGISLATION.

TORONTO, 22nd November, 1884.

SIR,—It is desirable that the decision of the most Honourable the Privy Council on the long-pending boundary dispute should be confirmed by legislation at the present session of the Imperial Parliament, and it is presumed that a request to that effect by the Dominion Government through His Excellency the Governor General would, if promptly communicated, probably facilitate the immediate passing of such an Act. My Government therefore desires very earnestly to press your Government to take without further delay the necessary steps for this purpose, if these have not been taken already. You are aware that their Lordships of the Judicial Committee of the Privy Council reported to Her Majesty their opinion that it was “desirable and most expedient that an Imperial Act of Parliament should be passed to make their decision binding and effectual.”

I take this opportunity of saying that I should be glad if your Government would consent to the whole northerly boundary being included in the Act. I think that the Dominion Government will agree with mine, that the Privy Council having decided in accordance with the award as respects our westerly boundary and the westerly part of our northerly boundary, the grounds of this decision involve the determination of the remainder of the northerly boundary in accordance with the award.

May I remind you that the request of my Government, communicated in my despatch of 31st January last, that the reference to the Privy Council which this Province and the Province of Manitoba had agreed on should be extended so as to embrace the whole subject of the northerly as well as the westerly boundaries of the Province, was approved of by your Government in March last, and communicated to me by your despatch of the 18th of that month. The despatch stated that your Government was “of opinion that it is desirable to settle now and for ever the whole westerly and northerly boundary, and believes that the case, as it will be presented to the Judicial Committee of the Privy Council, will afford such material as is available for the further purpose referred to.”

In the same despatch it was further observed that “As the western boundary between Ontario and the Territory of Keewayden (Keewatin) is the continuation of the line between Ontario and Manitoba, and the northern boundary of Ontario is the southern limit of Rupert's Land upon which the line of the western boundary depends, the submission of the further questions would seem therefore expedient and opportune, and this Government is of opinion that it is desirable, if their Lordships so please, that their decision should cover the additional ground referred to in your despatch before mentioned.”

The Case which had been agreed to by the two Provinces requested the opinion of the Privy Council as to our westerly boundary only, the same being the boundary between the two Provinces; and Manitoba, having no interest in, the northerly boundary, except so far as was necessary to determine how far our westerly boundary extended in that direction. A supplementary Case was, therefore, shortly afterwards prepared and settled

by Counsel for the Dominion with my Attorney-General, for the purpose of requesting that the decision of their Lordships should embrace the whole of our northerly boundary. The Case so settled was sent to your Government for confirmation. No action thereon having been taken by your Government, the Case agreed on between the two Provinces, in respect to the boundary between them, had to be argued before their Lordships in July last without this supplementary Case, Counsel for your Government taking on behalf of the Dominion the leading part in the argument; and, with the concurrence of Counsel for all parties, their Lordships considered and decided not only the westerly boundary but part also of the northerly boundary of this Province.

Rather than have any delay in consequence of the proposal that the Act should include the whole of our northern boundary, my Government would prefer that the Act to be passed this session should be confined to so much of the northern boundary of this Province as has been expressly decided on by their Lordships, leaving the remainder of the northern boundary for future action. It is in that portion of the recently disputed territory the bounds of which are expressly included in the decision of their Lordships that settlement has taken place.

To expedite the matter, I have had prepared a draft Bill, to carry into effect the decision, in case the Act is confined to what the Privy Council has expressly decided, or to cover the whole subject of the northerly as well as westerly boundaries. I have the honour to enclose a copy of this Bill for the consideration of your Government.

I have, etc.,

JOHN BEVERLEY ROBINSON,

Lieutenant-Governor of Ontario.

The Honourable

THE SECRETARY OF STATE, Ottawa.

29. DESPATCH UNDER SECRETARY OF STATE TO LIEUTENANT GOVERNOR, IN ACKNOWLEDGMENT.

OTTAWA, 24th November, 1884.

SIR,—I have the honour to acknowledge the receipt of your despatch, No. 3143, 1884, of the 22nd instant, pressing this Government very earnestly to take without further delay the necessary steps for the confirmation by legislation at the present session of the Imperial Parliament, of the recent decision of the Most Honourable the Privy Council, on the subject of the north-west boundary of Ontario, if these have not been taken already, and enclosing, for the information of this Government and in order to expedite the matter, a draft Bill to carry such decision into effect.

I have, etc.,

G. POWELL,

Under Secretary of State.

His Honour

THE LIEUTENANT-GOVERNOR OF ONTARIO.

27. DESPATCH OF LIEUTENANT-GOVERNOR TO SECRETARY OF STATE.

GOVERNMENT HOUSE,

12th Dec., 1884.

SIR,—I have the honour to remind you that in a despatch dated 29th April last, and acknowledged on the 1st of May, but not otherwise answered hitherto, I stated amongst other things that my Government had “deemed it right in view of the negotiations to refrain from all granting of licenses and sales of timber in any part of the “disputed territory?” that I presumed that your Government had taken the same course; and that if not, I took it for granted that immediate instructions would now be given to the proper Department to suspend all transactions pending the negotiation and dispute. I observed also, with respect to the interim management of the lands and timber in the territory, that it seemed to my Government that the matter might be more usefully discussed and disposed of by conference than by further correspondence. I stated that I had requested my Commissioner of Crown Lands, and some other member of my Executive Council, to hold themselves in readiness for this purpose, to meet the Minister of the Interior, and any other of the Dominion Ministers at any day which the latter might name; and I remarked that an early day was important. No such day, however, was named as then requested, no conference therefore took place, and my Government has learned from rumour that the Federal Government has not refrained from granting licenses and making sales in the disputed territory. It is reported that such licenses and sales of timber have been granted and made even since the decision by the Judicial Committee of the Privy Council, on the 22nd July last. You are aware that no information has ever been given to this Government of such transactions, though repeatedly applied for in despatches at their instance. The last case of interference on the part of the Federal Government with the lands of the Province reported by our officers is that of a person named Moore, who, it seems, is at this moment in Rat Portage on behalf of your Government selling permits and seizing wood for dues. The same officers report that gangs of men are cutting timber under Dominion authority in various other parts of the territory lately in dispute, but now decided by Her Majesty in Council to belong to this Province.

My Government protests in the strongest manner against this continued violation of the rights of this Province by the authority or alleged authority of the Federal Government, and trusts that all supposed licenses and permits will be forthwith recalled as having been granted in inadvertence or otherwise.

I have the honour also to remind you that I have not yet received any communication in answer to my despatch of 22nd November last (the receipt of which was acknowledged on the 24th of that month), with respect to Imperial Legislation to confirm the decision embodied in Her Majesty's Order-in-Council on the subject of the Provincial boundaries. I have the honour also to state that my Government has ascertained that on the 27th of August a despatch was sent to His Excellency the Governor-General from the Colonial Office, transmitting copies of Her Majesty's Order-in-Council, and requesting to be informed whether it was desired by your Government that the Imperial Legislation recommended in the Order should be promoted by Her Majesty's Government, and

suggesting in that case that a draft bill should be sent for consideration. My Government has learned that no answer to this despatch was received by the Colonial Office up to the 11th November last. My Government earnestly hopes in the public interest that no further unnecessary delay will take place in regard to this important and long disputed matter.

I have the honour to be, sir,
Your obedient servant,

JOHN BEVERLEY ROBINSON,
Lieutenant-Governor of Ontario.

28. DESPATCH OF UNDER SECRETARY OF STATE IN ACKNOWLEDGMENT.

OTTAWA, 13th December, 1884.

SIR, I have the honour to acknowledge the receipt of your despatch of the 12th instant, inviting the attention of the Government to your despatches of the 29th April and of the 22nd November last, on the subject of the Disputed Boundary question.

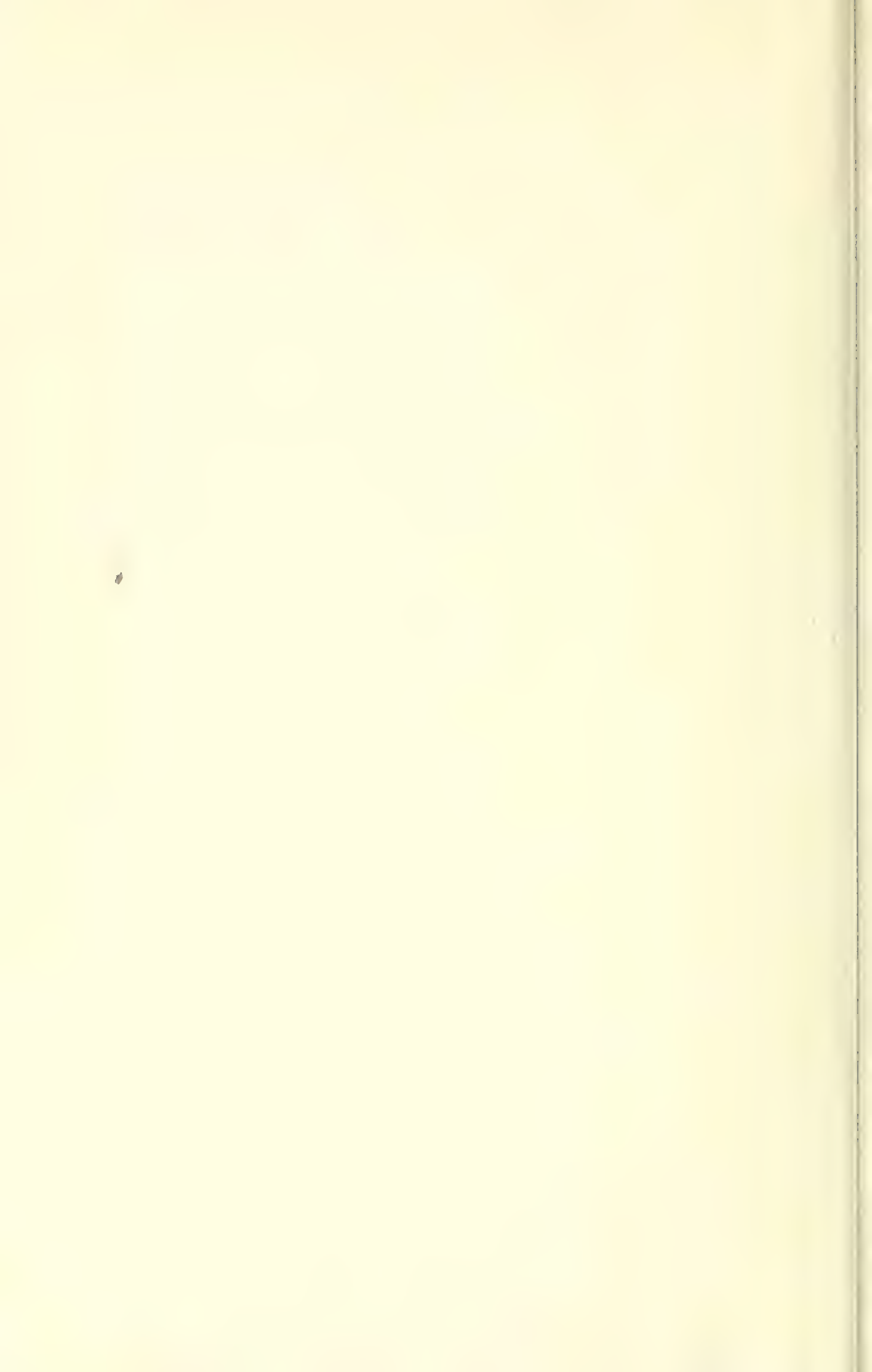
I have the honour to be, sir,
Your obedient servant,

G. POWELL,
Under Secretary of State.

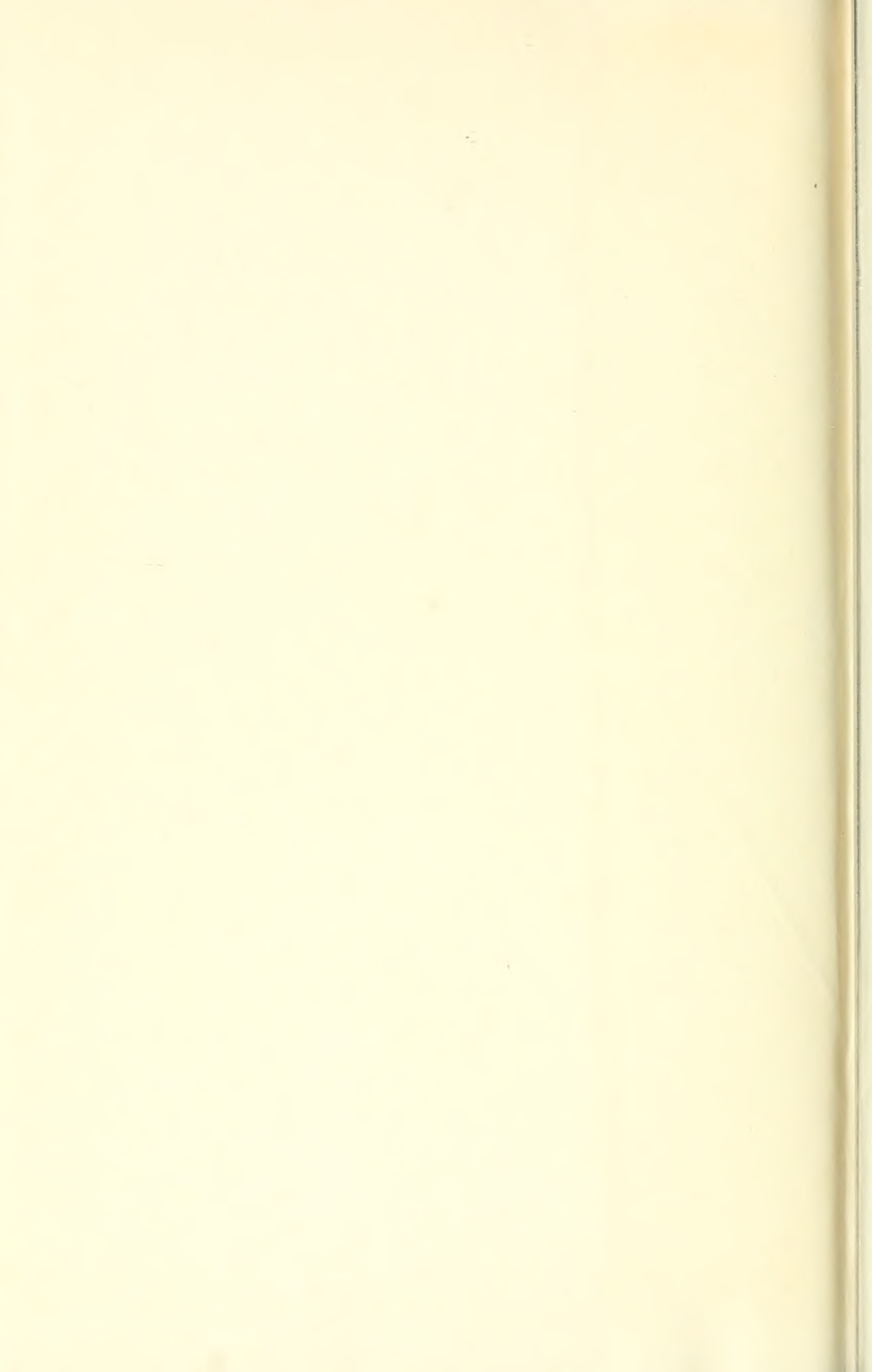
To His Honour

THE LIEUTENANT-GOVERNOR OF ONTARIO,
Toronto.









BINDING SECT. AUG 23 1967

